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President's Annual Address*

MICHIGAN AND OUR PROFESSION—YESTERDAY AND TODAY

RICHARD R. SMITH, M.D., F.A.C.S.†
GRAND RAPIDS, MICHIGAN

Three hundred years ago, had you and I flown over the old Northwest Territory, we would have found a goodly portion of it to the north—that which was to be the state of Michigan—more than half surrounded by great inland seas, bordered by magnificent dunes of shifting, white sand, the land itself dotted by more than five thousand smaller lakes, and marked by many streams, and almost entirely covered by trees. Had we been able to land and explore, we would have found that these trees were of great variety: in its southernmost part hardwoods, such as oak, hickory, walnut, ash, cherry, basswood and yellow poplar, and a little further north magnificent forests of white and Norway pines, and on the better soils within this region, maple, birch and beech. We would have been confronted with great swamps and in many places an almost impenetrable tangled mass of vegetation; surely, a grim challenge to the prospective settler. That these forests, among the most remarkable in the world, were to constitute for many years Michigan's chief source of wealth, and were to induce many thousands of men to seek homes in this wilderness, would scarcely have been imagined. Had we managed to journey to what was to be called the upper peninsula we would have found also great forests, the hardwoods and hemlock predominating, and still greater difficulties to be overcome because of the greater severity of the winters. We would not have visioned the great stores of mineral wealth that were to make Michigan for

a period the greatest copper producing state and today one of the greatest producers of iron. In the swamps of the southern peninsula we would have found spruce, cedar, tamarack, red maple, elm, ash, alder, red osier, dogwood and various viburnums, all to contribute to the wealth and beauty of the state, but making settlement more difficult. Above all, these swamps harbored the anopheles that later were to act as secondary hosts for the plasmodium of malaria that became so grave a problem to the settler for many years.

Austere as it was, the land was not without beauty. Bright color flashed beside the deep gloom of the forest. There could be seen the flowering wild plum, the white blossom of the thorn, and the pink of the crabapple. Along the streams grew wild roses and elderberry, and in the swamps and low places grew brilliant yellow cowslips, while on the lakes there floated white and yellow waterlilies. During the autumns, the open spaces flamed with flowering aster, and in the cool depth of the forest, one might have seen the shimmering white of the Indian pipe or Ghost flower.

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†Dr. Smith graduated, M.D., from the University of Michigan in 1892. He has since pursued post-graduate work in German centers and in Vienna. His specialty is general surgery and gynecology. He has contributed extensively to journals in his own specialty. Dr. Smith is a regent of the University of Michigan. For further professional information see the JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY, vol. 30, page 467; vol. 32, page 562; and vol. 33, page 569.

Protected and supported by the forests, we would have found in great abundance beaver, fox, deer, wolf and bear, and probably the muskrat, weasel and mink. All of these, with the wolverine, marten and fisher were to play an important part in the life of the early explorer, trader and settler of the days of French occupation and were to be the chief source of wealth for more than one hundred and fifty years. Bird life was abundant, and the passenger pigeon, now as extinct as the dodo, was present at times in enormous numbers. Flocks which blackened the skies, and estimated to contain more than a billion birds, were at one time known; hunting and marketing them later on attained for a short time the status of a major industry.

To such a land three hundred years ago came hardy and adventurous Jean Nicollet, sent by Champlain, the founder of Quebec, to find a waterway to the China Sea. He voyaged with seven Indians in a birch bark canoe to St. Mary's River which he ascended to the source in Lake Superior where we now are. Returning down the river he coasted along the shore of Michilimackinac (Mackinac Island) and reached Green Bay, Wisconsin. So sure of meeting the Chinese was he that when he first met the Indians of Wisconsin he was clothed in a gown of Chinese silk magnificently embroidered with oriental designs of birds and flowers. He was the first white man to see Lake Michigan and to set foot on Michigan soil.

There followed Father Jogues, who with Father Raymbault penetrated as far as the Sault. They were the first missionaries to preach the gospel a thousand miles in the interior. The trail of these pathfinders to the west was beset with the greatest hardships, requiring a courage, a knowledge of the forest, and a physical strength and endurance but seldom seen in the men of today. They made their way through thicket and swamp and forest, over rocks and fallen trees, and in fragile canoes over stormy waters. One of the greatest hardships they were obliged to endure was the torture inflicted by the black fly, described feelingly by Father Sagard. He wrote: "Hunger, thirst, fatigue and fever, are but slight afflictions as compared with this pest." A band of unprotected missionaries in the Georgian Bay region was brutally murdered by the hostile Iroquois, together with four hundred of their Huron allies. The forti-

tude of Father Brebauf, who succumbed only after seventeen hours of indescribable torture, so impressed his savage captors that they ate his heart in order to infuse into their own veins some of his indomitable courage.

Then came others to us better known. There was Father Marquette who with Claude Dablon established the first permanent mission here at the Sault. He was a most earnest, energetic and kindly man, a student of the Indian language and of geology and botany, whose writings constitute the first detailed and scientific information about Michigan. In a small chapel built of logs here at the Sault he taught school to his little Indian pupils and baptized eighty children of the wilderness. A few years later he founded a mission at St. Ignace, and a little later accompanied Joliet to discover the Mississippi. The people of Michigan have an affection for Father Marquette that will never perish.

And there was Louis Joliet, native of Quebec, educated, an accomplished musician, who could not resist the mysterious lure of the wilderness. He became steeped in the lore of the forest as few men are. As a guide and explorer he was unsurpassed. Marquette, the priest, dreamed of the souls to be saved, while Joliet was concerned with food, protection and transportation. Here at the Sault he planted the arms of France and claimed this part of the northwest for his king.

And there was La Salle, prince of explorers, regarded by some as the greatest of them all in his vision of what the New France might mean to the mother country. It is doubtful if history records an explorer endowed with the imagination, surpassing courage, perseverance and energy of this remarkable man. La Salle launched upon Lake Erie the Griffon, a forty-five ton schooner with five guns, in which he reached the southern extremity of Lake Michigan. Here the gun boat was sent back laden with furs and was never heard of again—where in Lake Michigan does it lie? Although La Salle's ambitions extended far beyond Michigan, he played an important part in the history of our state. It was La Salle who created a fort at St. Joseph, over which, during the struggle for the conquest of this land, has flown the flags of four countries—France, Spain, England and the United States. La Salle eventually reached

the mouth of the Mississippi, where in an ill-fated effort at colonization, he was brutally murdered by his own men.

There also came Cadillac who founded Detroit in 1701, and who wrote the King of France that his aim was to make Detroit the Paris of New France. His greatest desire was for a title of nobility, and he repeatedly asked Louis XIV to make him Marquis of Detroit, a request never formally granted. His children were born in Detroit, and several of them are now buried there in the graveyard of St. Ann's Church.

The history of Michigan of the seventeenth century (the period of the Jesuit missionary), was the history of these northern trading posts and forts in which the Sault, Mackinac and St. Ignace were most prominent. Afterwards Detroit became the center of the fur trade, and together with the settlements of Southern Michigan slowly forged ahead in population and importance.

For one hundred and fifty years the French were engaged in a great struggle against implacable enemies and the changes and hardships of a wild and unsettled country. It was Michigan's era of romance and adventure. There was a singular comingling of material and spiritual motives. The lucrative fur trade drew many to Michigan—yet Champlain and his successors seem to have been inspired by a sincere desire to illuminate the dark wilderness of the savages with the bright light of the Church and civilization. "The children of the forest," said Champlain, "live in total darkness without religion or law."

The various tribes of Indians, some friendly, some hostile, played a conspicuous part in the history of those early days. In spite of the natural wealth of the country, the beauty of the forests, and rushing rivers, desolation stalked at regular, periodic intervals throughout the life of the Indian, who lived in the midst of these riches of nature. Without civilization, science, agriculture and medical knowledge, the beings who peopled this state in those far off days suffered, because of such lack, untold miseries. Here in this city, in the midst of the country in which centered the Great Indian mythology of the northern tribes, we remember one of the most poignant passages in literature, describing such visitations of calamity. Longfellow has im-

mortalized this northern country and the Michigan Indian in the epic of Hiawatha, describing the daily life, the pleasures and the heroic achievements of Indian ideals, but in addition, he described the weariness and sorrow in the death of the bride of Hiawatha, telling how famine and fever came to the wigwam, how Hiawatha roved the forests and the mountains to find a vestige of food and when far away, amid the forests

"Miles away among the mountains
Heard that sudden cry of anguish
Heard the voice of Minnehaha
Calling to him in the darkness."

How he rushed home empty handed and heavy hearted:

"Saw his lovely Minnehaha
Lying dead and cold before him
Then he sat down still and speechless
On the bed of Minnehaha
At the feet of Laughing Water
At the willing feet that never
More would lightly run to meet him
Never more would lightly follow."

The medical man, as such, had but little place in these early times. The Jesuit missionaries administered to the physical as well as the spiritual needs of white and red men alike. Champlain may have been accompanied by a surgeon, and one Liotot may have accompanied La Salle on his first expedition, and it is altogether probable that a Jean Michel was perhaps the first medical man to see Michigan, but by and large we may say that the medical man had but little or no part in the earliest history of the state.

There came the French and Indian War ending French regime in America. The French, adventurous in spirit, were not persistent colonizers—they loved the romance, adventure and the mysteries of a great virgin territory, but were less enthusiastic about the clearing of land, the building of roads, the toil of the plow, the things necessary to support a great population and to civilize it. Detroit, though founded a century before, when destroyed in 1805 by devastating fire, had but 600 inhabitants and an area of about one square mile. Following the French and Indian War the Revolution divided the northern portion of the continent between Great Britain and the new republic. Michigan, which had been claimed by France, Spain and England, became a part of the United States of America by the treaty of peace signed in Paris

in 1783. Even after the making of this treaty, the territory was claimed by three of the original states in the Union—Virginia, Connecticut and Massachusetts. But eventually all the states surrendered their claims to the nation. In April, 1784, Thomas Jefferson's Ordinance became the first form of government of the Northwest Territory. Thus the first charter or constitution of the Territory of Michigan was written by the same hand that helped to frame the Declaration of Independence. Under the agricultural and industrial spirit of the American, real settlement began in the beginning years of the nineteenth century. There was the interruption of the War of 1812, but the opening of land sales in 1818, when land could be bought for a dollar and a quarter an acre, and the opening of the Erie Canal a few years later, attracted settlers who were to bring the needed stimulus to agriculture, trade, commerce and manufacture. The population of Michigan increased from seven thousand in 1820 to 174,000 in 1837, when the state entered the Union. Detroit profited much by its position at the very door of the territory. The earliest efforts at settlement were seen in the counties along our southeastern water front, Monroe, Wayne, Macomb and St. Clair, and in this early part of the nineteenth century roads were built radiating from Detroit to St. Joseph, Niles, Kalamazoo, Grand Rapids and Saginaw. Stages were running on all these routes, when Michigan entered the Union as a state, and to Sandusky, Chicago, Flint and Fort Gratiot (Port Huron) and to St. Joseph by the territorial road. And so Michigan grew in population. When admitted to the Union in 1837 its population, as stated, was 174,000. In thirteen years the number was doubled, and in another ten years, redoubled. In 1900 its population was nearly two and one-half millions. Then came even more rapid growth. In 1920 there were over three and a half millions, and now more than five millions.

The difficulties presented to the early settlers were hardly less than those presented to the pathfinder, the woodman, the missionary, and the fur trader of the days of the French. Other states of the Middle West were fertile prairies, easy of cultivation, but Michigan was a rugged prize that required rugged conquerors. Only through the persistent and arduous efforts of cour-

ageous pioneers could the land be made fit for cultivation and civilization. And with these rugged pioneers came the medical man of like woof and warp, with a willingness to accept the hardships, and a courage and determination to fulfill his part in the life of the young settlements. Roads and trails were almost always difficult and frequently impassable. Our pioneer physicians were subject to great fatigue and illy protected from the weather. A single call sometimes took more than a day and many times they had to contend with the dangers of the forest and hostile Indians. Their drugs were crude as well as their instruments. Still they carried on. It was the horseback days of practice in Michigan. Quacks and charlatans were common and as early as 1819 a few men of high ideals and ambitions for medicine formed the Michigan Territorial Medical Society. To these men was granted by the government absolute control over those who were to practice medicine and they undertook to examine and grant diplomas of recognition of fitness for practice. It was in this era that Beaumont performed his remarkable experiments upon Alexis St. Martin at Mackinac, an example of what one gifted with imagination and a daring, inquiring mind can accomplish under the most difficult and primitive conditions. It offers an inspiration to us who have at our command all the numerous facilities contributed by modern science.

Michigan gradually extended its area of settlement and its population grew. Its forests, which at the beginning were a barrier to settlement and agriculture, became its greatest source of wealth. Lumbering in the pine regions began about 1830. The crude and slow water driven saw was replaced by the steam driven circular and later band saw. In 1847 the shipment of the first cargo of pine lumber to Albany marked exportation and the beginning of lumbering on an ever increasing scale. Michigan became the greatest lumber producing state in the Union. Attracted by employment, tens of thousands moved northward to the timber. Cities such as Grand Rapids, Muskegon, Saginaw and many smaller ones owe their growth and importance largely to this industry. Everywhere was heard the whine of the saw and the sweet odor of fresh sawdust was in the air. And then quite abruptly toward the

close of the last century the supply, which had seemed inexhaustible, almost disappeared. No longer was heard the cry of "timber" preceding the fall of the forest monarch, no longer were the cant hook and pike household words—our streams, filled with the logs of the spring drive, became the recreational delight of trout fishermen, and the colorful lumber jack turned for his living to the less colorful farm and to industry.

Conditions of medical practice gradually improved during the era of lumbering. Roads improved, there was better protection from the weather, hospitals and nurses became more numerous, and with advanced education the doctor became of far more service to the people of the state. It was the age of great discoveries in medicine—of anesthesia, of bacteria as a cause of disease, and of aseptic surgery; the close of this era saw these things coming more and more into general recognition and use. The practice of medicine was being slowly transformed. It was the horse and buggy days of medicine. There was little specialization. The doctor's practice was largely with families that employed him year after year, and he usually sent his bill annually. The complex problems of medicine today were unknown to him.

The people turned at the beginning of the century with increased vigor to manufacturing. The timber was gone, but a people that had conquered the wilderness was not to be thwarted. We have become a great manufacturing state producing an infinite variety of articles from wooden shoes to automobiles, and perhaps more especially, articles made from metal. Quick to sense the enormous advantage of the automobile to the world, and perhaps, too, because of the fact that we were already manufacturing gasoline engines in large quantities, we began to manufacture them and we now produce 80 per cent of the automobiles of the nation, and it has brought us greatly increased wealth and population.

Though we are not pre-eminently an agricultural state, we produce the country's greatest crops of peppermint and cherries, garden seeds, celery, tulips, potatoes and sugar beets.

Our heritage from geologic ages still produces a notable amount of copper. At one time ranking first in the United States in copper production, we are now surpassed

by Montana, Arizona and Utah. We rank second to Minnesota in iron production, the whole Lake Superior iron district producing 85 per cent of the nation's supply. We produce salt in large quantities, and now also oil. We have become a leading recreational state with tens of thousands of visitors a year. Michigan with its long shore line of the Great Lakes and its sand dunes, its woods, its streams and small lakes, its invigorating summer climate, its beauty, offers rare opportunities to the lover of the outdoors, the athlete and the sportsman.

The settlers that came to Michigan in large numbers during the early third of the nineteenth century came largely from New England, New York State and Pennsylvania. They brought with them the habits and customs of those states. They were a hardworking, intelligent people and believed in the substantial things that gave security, opportunity and liberty to the individual and contributed toward a higher state of civilization. Among other things they believed in education as a means to these ends. They early established schools. Coming as they did from the more mature communities of the east they believed in higher education. After a beginning in Detroit in 1817, the University of Michigan was established at Ann Arbor as one of the first acts of the legislature of the new state in 1837. Simple was that beginning, but the idea was planted and it grew. The University of Michigan has become one of the greatest institutions of higher learning in the world and has had a most marked influence on the development of the state and the stability and welfare of its people. Fortunate are we that our forefathers were men of such insight and vision, and that the generations that have followed have supported such ideals so well. The University was not merely the idea or dream of one or a few men of wealth and education. It was the outcome of the ideas and aspirations of the people as a whole, a true state institution.

The medical school was opened in 1850 at a time when there were few in the country. To this state goes the credit of being the first state to recognize the importance of professional education in medicine. Its establishment was due to the energy and vision of a few men of science—Dr. Asa Grey, Dr. Abram Sager, Dr. Douglas

Houghton, Dr. Silas H. Douglass, Dr. Zina Pitcher, and Dr. Moses Gunn. They have been followed by a long list of distinguished scientists and teachers, of research workers and clinicians. Their program has been one of imparting to young men (and women) a thorough and scientific knowledge of medicine. They have clung to the idea that the teaching of fundamentals was most essential—something upon which the student and future physician could erect a substantial superstructure. The Detroit College of Medicine (now Wayne University) is maintaining this same idea and has contributed greatly to medical education in this state. Our proprietary schools, unworthy of the profession and the people of Michigan, no longer exist. In the beginning at Ann Arbor, two full courses of lectures of six months each, and a year with a so-called preceptor, a physician in practice, were all the requirements for a diploma. The course was gradually lengthened to four years in 1890, where it has remained. The requirements for graduation today are well known to you. Perhaps the most striking changes in undergraduate education are the pre-medical requirements. They include Chemistry, Physics, Botany, Psychology, Zoology, German and French, English literature, and other cultural subjects. Surely the physician of the future bids fair to be a man of broad culture and to have a deeper and better understanding of medical problems. Since the war we have seen the beginning of another great movement, a great enlargement of opportunities for post graduate work. You know what is being done. It will slowly elevate standards of practice, improve the service which we are to render the people of the state, and increase the enjoyment of our work.

A large part of the practice of the physicians of the earlier days consisted in caring for the contagious and infectious diseases. The most serious, from an economic and sociological standpoint, was malaria. A large portion of the population was affected at one time or another and the disease had to be considered in the diagnosis of almost every patient. In its effects upon the people it was almost as serious as hookworm. There were serious epidemics of cholera. In 1832 one started in Detroit and spread to many towns of the southern portion of the state. In that year, out of a population of twenty-five hundred in De-

troit, more than one thousand died. Roads leading into the surrounding country were blockaded, bridges torn up and guards placed in the highways to intercept persons coming from Detroit and turn them back. In that year Father Gabriel Richard, publisher of the first newspaper in Michigan, and delegate to Congress from the Territory, as a result of his ministrations to the sick, finally died of the cholera. There was a return in 1834 and in that year many of the well known leading citizens, including the Governor, George B. Porter, died of the disease. In another epidemic, that of 1849, twelve hundred died in Detroit of the disease. Cholera infantum and the summer diarrhea of infants kept the practitioner very busy during the summer months. Smallpox was a common serious disease. Tuberculosis was a much more common disease than today and there were the epidemics of typhoid fever and the so-called children's diseases. All in all the physician's time and efforts were devoted largely to the care of such patients.

The manufacturing era of Michigan has been accompanied by the most rapid advance in medicine. Specialization has been a natural outcome of it and in no small way responsible for this advance. It has markedly improved the service rendered the people though it has brought serious problems to the general practitioner. With greater wealth, and to better meet the demands for a medical care commensurate with greater medical knowledge, hospitals have increased materially in number and improved enormously in service. Laboratories, nurses and an army of lay workers have made the practice of medicine indeed a life of greater enjoyment and satisfaction. One only needs to look back to, say the nineties, to realize all this. It is the automobile age in medicine and considering the past, an age of medical luxury. With the subsidence of the contagious diseases, physicians have turned their attention more strictly to the correction of the innumerable other ailments of mankind. Life has been prolonged and the health of the people greatly improved. Medical organization has made enormous advances. Through its very frequent well planned meetings it has been a great help in our education, has brought us more closely together, and has given us a better conception of our relationship to the public and our responsibilities to it in

health education and in innumerable other ways. People have become health minded as never before. The average, intelligent individual may reasonably expect, barring accidents, to maintain good health and vigor through the years and well into old age. But in this he definitely needs the assistance of the medical profession. We are entering an age of prevention in medicine—not prevention alone of the contagious and infectious diseases, but of all the diseases, physical and mental, which still take so heavy a toll in sickness and in life. I believe that a gradual re-establishment of family practice will come in this way. There is a growing and insistent demand for this kind of service, a demand to be directed, self and family, in all matters of health. It involves hygiene and personal habits, the correction of faulty tendencies, physical and mental, and the eradication of disease in its early stages. Are we lagging in all this?

Michigan conquered the wilderness. From an austere and forbidding land it carved its cities, towns, villages and farms. With never failing courage and ingenuity it developed its natural resources. With our help it has largely overcome the contagious and

infectious diseases, lengthened life and improved health. It has survived war and depression, and the destructive forces of ignorance and greed. Through education, science, medicine, the church and many other uplifting forces it has enormously improved the standards of living and added richness and enjoyment to life. It took men of rugged character to do all this, but such were our pioneers. We have entered a new complex era of commerce and industry, education and science—a new era, if you will, of civilization. Our pre-eminence now depends not upon our natural wealth and resources but upon the character, stability, intelligence and energy of our people. Our problems have changed but are no less difficult. With the great advantages of today we may look forward with confidence as did our forefathers at a time when the morning was before them and the spirit of Michigan was, then as now, courageous and unconquerable.

NOTE: The historical material in this address has been obtained from many sources—from correspondence and interviews with friends, and from various publications. Some of the publications should have specific acknowledgement. They are the *Medical History of Michigan* published by this society, and articles by George N. Fuller and Antoine J. Jobin in this year's spring and summer number of the *Michigan History Magazine*.

ACUTE HEPATIC INSUFFICIENCY*

Clinical Occurrence, Liver Function Tests and Therapy

WILLIAM A. THOMAS, M.D.†
CHICAGO, ILLINOIS

The commoner functions and activities of the liver are well known, both from a clinical and a physiological standpoint. Chief among these are bile formation; the glycogenic function, whereby blood sugars are converted and stored, to be released on demand of appropriate stimuli; and certain other synthesizing and detoxifying activities. Furthermore, failure of liver function over longer periods of time, notably in cirrhosis, presents definite constitutional and laboratory results that are commonly recognized. However, the picture of acute hepatic failure, while frequently seen and usually defined in terms other than such, has recently come to be recognized as a pre-

dictable, definite, and frequently preventable event.

Acute hepatic insufficiency occurs as the result of either toxic or destructive processes which involve liver rather than renal or other tissue, central nervous system for example, and is usually precipitated by some additional factor, frequently incidental in character. The picture is that of shock, and may well be called liver shock,

*From Rush Medical College and Presbyterian Hospital, Chicago. Material for this paper was drawn in part from studies made under the Raymond Fund. Read before the Medical Section, 114th Annual Meeting of the Michigan State Medical Society, Battle Creek, September 13 and 14, 1934.

†Dr. Thomas obtained his B.A. degree from the University of Chicago, 1912, and his M.D. from Rush Medical School, 1916. His undergraduate work was done mostly in Europe; Geneva and Munich. He served his internship in the Presbyterian Hospital with Dr. Billings in 1917. He is at present Associate Professor of Medicine at Rush Medical School. He is also on the staff of the Presbyterian Hospital. His practice and teaching are limited to Internal Medicine, with emphasis on nephritis and allied disorders.

differing only in a few important respects from post-surgical and other shock occurring in the absence of liver damage. In particular it resembles histamine shock, especially in its mechanism, and it may well be that this latter, and also shock resulting from extensive tissue destruction, are both due to release into the circulation of histamine-like substances derived from rapid tissue breakdown—liver or otherwise.

The picture is that of falling blood-pressure, rapid thready pulse, dyspnea, and collapse, progressing when severe into anuria, convulsions, and coma, with the patient cold, pulseless, and ashen, sometimes cyanotic. This may be fulminating, the entire process occurring within a few minutes, or may be either gradual and slow, occupying several days to a fatal termination if untreated, or of minor degrees of severity, these latter commonly unrecognized as such, with spontaneous recovery. As recently as three years ago one of my patients operated upon for long-standing gall-bladder disease by an eminent surgeon of our staff complained on the third day of a feeling of weakness and fatigue. No concern was felt at first, but gradually, over the next two days, a state of profound exhaustion, air hunger, loss of appetite, and collapse supervened. The pulse became thready and disappeared at the wrist, extremities became cyanotic, blood-pressure fell below sixty systolic, followed by six hours of deepening coma, two convulsions, and death. The point I wish to make is that no one was able to tell me why this man died. There was no hemorrhage, no pathological condition was revealed other than that commonly found in long standing gall-bladder disease with obstruction. Today it is quite evident that either that patient should not have been operated upon at that time or that appropriate measures would have prevented the termination.

The mechanism of this collapse, a source of intensive study with us and elsewhere, reveals that outstandingly there is a loss of blood water to the tissues corresponding again, in this respect, to histamine shock. The muscles and liver develop a tissue thirst or water valence so great that the free water of the blood is withdrawn to greater or less degree from the circulation, accounting largely for the vasomotor symptoms of falling blood-pressure and rapid pulse, as well as for anuria, which

is merely a reflection of decreased or absent free water in the blood. The blood is thick and dark, and analyses at this time reveal simply concentration of all elements. This is, of course, nothing less than edema, and is participated in by many or all tissues, especially, other than muscle and liver as noted above, the brain. Disturbances of mineral metabolism, especially loss of tissue calcium and replacement by sodium, occur. Furthermore there is a failure of tissue oxidation due to the disturbed state of colloidal aggregation going hand in hand with this edema and electrolyte imbalance, and particularly is there a failure of the liver to release glycogen, with resultant lowering of blood sugar.

Granting for the moment pre-existing liver damage, attention is directed to the immediate and precipitating factors in the cause of the condition. Anesthesia alone may be the source, or in any event a major contributing factor. Fortunately the use of chloroform, notoriously damaging to liver, is rare. Ether, however, is extensively used, and, while it does not cause acute liver damage, has a marked action on this tissue which cannot be ignored. It is unfortunate that ethylene and other less toxic anesthetics do not give the relaxation necessary in extensive abdominal surgery, especially of the gall bladder.

Second to anesthesia comes the trauma of the operation itself and this is especially true when the liver is manipulated. It is self evident that extensive liver damage occurs most frequently in company with disease of the bile ducts and gall bladder and that it is in those cases, especially of intermittent, recurrent, or long-standing obstruction, that the hazard is greatest. Recently my intern, who was busily engaged in these problems with me, reported that two cases of shock had occurred simultaneously the night before in patients on a surgical service following gall bladder operations, and that the staff had attributed the reaction to contamination of glucose solutions being used subcutaneously. On investigation, both cases proved to be typical reactions of the type under discussion and both improved following emergency blood transfusions, as the condition had also been considered as possible hemorrhage.

The reaction is seen commonly and in its most spectacular form as an eclamptic manifestation, occurring frequently from

six to eighteen hours after delivery. This phase I prefer not to discuss further, since it represents unpublished work still in process with several colleagues. Nevertheless, the same principles of diagnosis, preliminary preparation, and treatment of the acute state hold true. Other toxic reactions, particularly those following arsphenamine and serum administration and the true anaphylactic type, represent modifications which are not due to liver damage, but probably to the presence of toxic aggregates of protein degradation foreign to the circulation; and at this point it is well to warn against the sudden release of a tourniquet, since, in dogs suitably prepared, release of a constrictor placed tightly about a leg for only a few minutes precipitates an immediate and extremely severe collapse and convulsion. Strangely enough, cirrhosis does not in most cases result in any great degree of vulnerability, and it appears that the liver functions involved in this type of reaction are not impaired to the degree one might expect.

The selection of a test of liver function is no simple matter; in fact, is quite as complex as in renal tests, and a comparison of the problems is entirely legitimate. For example, does the phenolsulphonephthalein test represent the existing kidney function? Or does the urea clearance test, or the figures derived from the blood chemistry? Are there many renal functions to consider, such as ability to excrete water as compared to minerals or metabolites, and, if so, which of the tests most truly represent renal capacity? Similarly in the liver, we are faced with a number of functions, some of which concern us in this particular study; others not, and the problem is to select a practical test that appears to truly represent the interests at hand. Briefly, the galactose tolerance test has been tried extensively and, while still a routine procedure, is largely ignored, since its value is positive only, not negative; that is, in only extreme cases does it show a positive result, and remains within normal limits in numerous cases that reveal distinct loss of function by other tests. The bromsulphalen test proves quite satisfactory in many hands, but in our experience was less accurate than our final choice. As accurate as any is the bilirubin clearance test, but as the prevailing price is twenty-five dollars a gram, and the dosage a milligram per kilogram of weight,

its extensive and repeated use in a large series was financially impossible. For a time the iso-iodoikon seemed satisfactory, but careful checking proved that it, as did galactose, gave readings within normal limits in cases that were distinctly beyond those limits.

Finally, and fortunately, I believe, we adopted the Rose-Bengal test as our standard, and in a long and complicated series of subjects there has been no instance in which the results could be criticized. Second only to its accurate representation of the factors involved, it is simple and inexpensive. It was originally advocated by Althausen¹ and more recently by Beskind, Epstein, and Kerr.²

Ten c.c. of a 1 per cent solution are injected intravenously, regardless of weight. Two minutes after injection, the maximum distribution and concentration occur in the blood and at this time 3 c.c. are withdrawn onto oxalate as the standard. At eight and sixteen minute intervals two similar amounts are drawn (that is, 10 and 18 minutes after the original injection), and the amount of dye remaining in the blood is read and compared with the two minute standard. At the end of 8 minutes, not more than 55 per cent of the two minute standard should remain in the blood, and after sixteen minutes not more than 35 per cent. Results may be read by spectroscope or colorimeter, and, with the contribution made by Dr. Freeland in our laboratory of making dilutions with serum rather than water, controls by the two methods read by different individuals usually fall within 2 per cent and frequently within one-half of 1 per cent of each other.

Clinically the Rose-Bengal test has represented accurately the functional capacity of the liver in which we have been interested. A group such as ours, Rush Medical College and Presbyterian Hospital, is notoriously and correctly conservative, so that, with all the data at hand, gall bladder cases are sent in after supper and operated upon before breakfast, but there is an increasing interest in, and attention to, these facts. In such cases, when feasible, function tests are performed and, when the results indicate impaired function, pre-operative methods are employed, daily tests being done, until a satisfactory condition is obtained. In this preparation, glucose is given in large amounts and by numerous routes. A high

carbohydrate diet, including candy, sugar, sweets, and starches of all types, is given by mouth; 6 or 10 per cent glucose in distilled water (not salt solution) may be given under the skin. Calcium is administered in massive doses, as the lactate or gluconate by mouth, and the gluconate intravenously or subcutaneously. Alkali, in the form of various proprietary effervescent powders or as alkaline waters, is administered in large quantities, care being taken that the calcium and potassium exceed sodium.

Ordinarily a few days' treatment will so improve the liver function that operation, with its mechanical and metabolic hazards, including post-operative acidosis and hypoglycemia, is no longer to be feared. The results thus far obtained have fully justified confidence in the tests and procedure so that patients so prepared have surprisingly rapid and uneventful recoveries.

Nevertheless, the occurrence of acute hepatic insufficiency in cases not so prepared, and especially in toxemias of pregnancy, requires prompt and specific treatment. In the first place, this collapse is definitely not cardiac and the digitalis preparations so frequently used, either intravenously or otherwise, have no definite value. The rapid, feeble pulse is merely an indication of decreased blood volume with decreased peripheral resistance and a heart striving and fluttering against an unaccustomed lack of this resistance. The primary need is of fluid that will remain within the vascular bed, and this is not supplied by salt solution or glucose, even intravenously, for, with the prevailing tissue demand for water, fluid in these forms leaves the circulation practically as fast as it can be administered. Blood serum is very satisfactory, and though transfusion of whole blood, by either direct or citrated methods, accomplishes the desired result, plasmaphoresis is theoretically superior due to the smaller volume required and decreased hazard of agglutination of donor's cells. So far we have not used plasma or serum alone due to the delay in preparation, but trust it may be tried shortly. Second only to blood is the acacia advocated by Hartmann and at present I am inclined to rely more on this than on blood, due to its availability and extremely satisfactory results. On numerous occasions, cases seemingly in extremis have responded within twenty minutes of the acacia administration to the degree that all apprehension

regarding the outcome had vanished and only rarely has more than 500 or 600 c.c. been necessary. In our experience, the size of the needle required, combined with the collapsed state of veins, precludes the usual intravenous procedure and requires cutting down to the vein and the insertion of a cannula of moderate size. Reactions are rare and no unfavorable after-effects have been noted.

Abandoning the use of digitalis, three stimulants are used—adrenalin, caffeine, and strychnin, all of great value as vasomotor stimulants. In critical conditions adrenalin in 10 minim doses may be administered every ten minutes and the others every thirty or forty minutes. Oxygen by nasal catheter gives tremendous relief from the cyanosis, dyspnea, and restlessness, and in practice is continued for twelve or eighteen hours when conditions so warrant. Heat to the extremities appears to be of actual value and, as in other types of shock, is routine.

Glucose at these times is of paramount value, given subcutaneously, with multiple needles, in 10 per cent aqueous solution. Given intravenously, it does not remain in the blood stream and for some reason seems less available for utilization than when absorbed from the subcutaneous spaces. Insulin in dosage sufficient to cover half the glucose is given in small divided doses, regulated by the rapidity of absorption of the glucose solution. Five units for every 200 c.c. of 10 per cent glucose appears to produce optimum utilization. Not only in its preventive action, but also in the acute stage is calcium of great importance, protecting liver cells against further damage and reversing the path of water flow, thus correcting the tendency for further water loss from the blood. It may be given intravenously as the gluconate, 1 gram every ten minutes for five or six doses, intramuscularly or subcutaneously when veins cannot be utilized, or added to the glucose solution, 3 or 4 grams per 1,000 c.c., altogether to a total of eight grams within the first two hours and 20 grams within twenty-four hours. The most evident and important action of glucose, apart from preventing cellular damage, is to promote resumption of renal activity, thus preventing retention of metabolic products by aiding the return of water from potentially edematous tissues to the circulation.

Conclusions

1. Acute hepatic insufficiency, one type of shock, occurs in the presence of damaged liver and follows the disturbances of operation, anesthesia, liver manipulation, pregnancy, et cetera.

2. The degree of liver damage may be satisfactorily determined by various tests, of which Rose-Bengal has proved entirely satisfactory.

3. The mechanism and predisposing factors in the condition are discussed.

4. Therapy depending on the above causes rather than cardiac insufficiency is effective in preventing the occurrence of the syndrome in large measure, in improving liver function to the point of safety for operation, and in combating the acute condition when it occurs.

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ABDOMINAL PREGNANCIES OCCURRING IN DETROIT DURING 1933*

CLEARY N. SWANSON, M.D.†
DETROIT, MICHIGAN

The rarity of abdominal pregnancy is too well recognized to require any special emphasis although there have been a number of cases reported in the literature, particularly during the last few years. There has been considerable controversy over the question of whether the various cases were of the primary or secondary types. Many writers, such as Bland Button, deny the existence of a primary abdominal pregnancy. The more one studies the literature, the more confused one becomes; so I have not attempted to state definitely in the cases that I am reporting whether they are primary or secondary.

The first case of so-called primary abdominal pregnancy was reported by Balabin in 1896. His case was that of a pregnancy situated in the cul-de-sac. The second was reported by Walthauer in 1903 in which placental tissue was found rolled up in a piece of omentum.

Williams in his textbook states that in all probability not more than 1 per cent of all extra-uterine pregnancies reach full term. In tracing the fate of embryos, it is found that most of those that are extruded into the peritoneal cavity are absorbed. Should the fetus attain a certain size before death, it cannot be absorbed and will undergo either supuration, mummification or adipocere formation.

Going on to term, false labor sets in, simulating normal labor, and may last from four hours to a few days. Death of the

fetus naturally follows. After death of the fetus occurs, the placental circulation gradually becomes abolished, the amniotic fluid is absorbed and the fetal sac retracts. After the initial shrinkage, the tumor may remain stationary for years. The following case reported by Halibin illustrates this very well: A negress, 55, entered the surgical ward complaining of weakness, loss of weight, and passage of bones by rectum. Her third pregnancy was supposed to have delivered as a full term pregnancy thirty years before. At the time she expected delivery she visited several hospitals and was told that she was not pregnant. She returned home, where, over a period of about a year, her abdomen slowly decreased in size until it was normal again. Rectal examination showed a hard mass posterior to the uterus. No evidence of any bones was found. Patient was discharged as a malingerer. On her next entrance to the hospital, a bone was found in the rectum. With the aid of a proctoscope seven more bones were removed. These were skull bones and one pelvic bone. The patient had carried the products of conception thirty years and that

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†Dr. C. N. Swanson graduated from Harvard Medical School in 1923. He was Surgical House Officer, Boston City Hospital, Boston, Mass. He was later instructor in Gynecology and Obstetrics, University of Iowa Medical School. He is on the staffs of Harper and Herman Kiefer Hospitals and Obstetrical Department, Wayne University School of Medicine.

she suffered as little inconvenience as she did is little short of marvelous.

There are many cases in the literature showing that operative interference should have been instituted long before it was. I think the following case was most interesting: This patient had a history of vomiting and vague abdominal pains during the pregnancy. Date of confinement was February, 1925. On March 1 she began to have labor pains which lasted for twenty-four hours. On April 1, patient flowed for three days. On April 21 her physician packed the cervix twice and inserted a balloon bag. Six days after bag was inserted, her left leg became markedly swollen, evidently developing a phlebitis. Latter part of April, patient felt fetal movements and physician heard heart tones. In August, 1925, the physician, being very confused in his opinion, had an x-ray taken which showed the presence of a full term fetus. The patient was advised to have a cesarean section, but, being a Scientist, refused to have operative interference. In September she began menstruating normally every twenty-eight days. By this time her health was much improved. She did not enter a hospital for operation until January, 1926. Cesarean section was performed twenty months after she missed her last period. A well developed, well nourished fetus was found in a large sac filling the abdomen. The operator thought that this was a primary abdominal pregnancy. Fetus and placenta were undergoing calcification. Uterus and tubes were normal.

Before giving you the records, I should like to present the following statistics: There were ten cases. Six were at term, four were premature, the earliest being four and one-half months. Four mothers died, giving a maternal mortality of 40 per cent. In analyzing these deaths, all were preventable if the diagnosis had been made early and before various manipulations had been started. From the standpoint of the operation, I think only one could have been saved by leaving the placenta *in situ*. Two cases were brought into the hospital moribund. There were two live babies which were in excellent condition when discharged from the hospital. One premature lived for thirty-six hours. There were eight fetal deaths, which gave a fetal mortality of 80 per cent. Although there are a few cases reported in the literature in which live babies were obtained in abdominal pregnan-

cies, it is most unusual that in this series there were two full term live babies. There were 23,248 births in Detroit last year with ten abdominal pregnancies or one in about 2,300 births. There were 1,193 infant deaths with eight from abdominal pregnancies. The number of maternal deaths was 144, with four from abdominal pregnancy.

Harnes found only ten cases of abdominal pregnancy in going through the records of the New York Lying-In Hospital, where there had been 156,000 deliveries. Their maternal mortality was the same as this series. The resident at Kiefer Hospital went over their records and found they had four cases last year and one the year before as the only cases on record out of 22,000 births.

I will present a brief summary of the case records of abdominal pregnancy that occurred in Detroit during the period of one year.

Case 1.—Mrs. B. was admitted to a local hospital in critical condition on May 12, 1933. History: She was married fourteen years, during which time there had been one spontaneous abortion. There were no full term pregnancies. She had attended a local hospital clinic where they told her she had a fibroid with pregnancy or a malignancy involving the uterus. Her last menstrual period was October 23, 1932. During January she passed a large clot and bled irregularly during the entire month. No hemorrhage or spotting occurred during March. Four days before admission, she developed severe abdominal pain with vomiting, and was admitted to the Receiving Hospital, where she stayed one and one-half days. As she felt better she was sent home as she was thought to have a normal pregnancy. She had not been home long when she developed severe pains over the entire abdomen. These were not localized and continued until operation. On admission she presented the picture of severe hemorrhage, pallor, rapid pulse, and shallow respirations. The abdomen was evenly distended with board-like rigidity. Marked dullness was present in both flanks. A mass could be made out on the right side which extended to the umbilicus. On rectal examination a head was felt down in the pelvis. Pulse was 150 with only fair quality. Diagnosis of abdominal pregnancy or a ruptured uterus was made. Operation: A mid-line incision was made and right-sided intraligamentous pregnancy was found. A living fetus weighing 2 pounds 7 ounces was removed. The placenta was peeled off the broad ligament without much difficulty. Bleeding was controlled with hot packs. Supra-vaginal hysterectomy was done, leaving the left tube and ovary *in situ*. The child lived about thirty-six hours. The patient had a rather stormy convalescence and complained of considerable abdominal pain. For the first few days she was nauseated and vomited. When she was examined for discharge there were no pelvic masses made out although there was still some tenderness on the right side.

Case 2.—This patient was admitted to the hospital on April 19, 1933. Her abdomen was enlarged to the size of a full term pregnancy. She complained of nausea and vomiting throughout the entire pregnancy and had been confined to bed most of the

time. Her last menstrual period was in June, 1932, which made her about at term when she entered the hospital. She was sent in for a cesarean section by her local doctor who said the patient could not stand a normal labor. On examination there was a mass on the left side which contracted when massaged. This was believed to be the uterus. On vaginal examination only the posterior lip of the cervix could be seen. The anterior lip could not be seen nor felt because it pointed directly upward and was behind the symphysis. On the left side could be felt this mass which was previously described and thought to be the uterus. A large mass containing a fetus was felt on the right side. The head was felt in the cul-de-sac. The fetal heart could be heard upon admission but could not be heard during the night before operation. Diagnosis of abdominal pregnancy was made. The patient was operated on the next morning, revealing a right-sided full term intraligamentous pregnancy. Subtotal hysterectomy and bilateral salpingo-oophorectomy with an appendectomy were performed. The child was stillborn at term. The placenta was removed without much difficulty. The patient had a stormy convalescence and developed intestinal obstruction which required a secondary operation for relief of same. She complained of severe abdominal pains until the time of discharge.

Case 3.—A white woman was admitted to a local hospital on March 23, 1933. The patient had been admitted two weeks before this admission and was sent home not in labor with diagnosis of normal pregnancy. This pregnancy was peculiar in that, since conception, she had had ill health, loss of weight and weakness. There had been no such symptoms during her previous pregnancies. She was seen at a local clinic during the time she was carrying the baby and a diagnosis of a normal pregnancy was made. Her last menstrual period was in June, nine months prior to admission. She bled for three weeks in July. She had been troubled with a profuse vaginal discharge and many attacks of pain, nausea and vomiting. There had been a small amount of bleeding a few days before she came to the hospital. Examination revealed a tumor mass in the midline with pain and tenderness in the region of the appendages. No fetal heart sounds could be heard. There was some gaseous distention of the abdomen. Vaginal examination showed that the cervix was bluish, pointed upward and admitted one finger. It was connected with the mass described above. A sound was passed to make sure this was the uterus. Diagnosis of abdominal pregnancy. On March 29, operation was performed under spinal anesthesia. A midline incision was made. A right intraligamentous full term pregnancy was found. Fetus had been dead for some hours as was shown by beginning maceration. Supravaginal hysterectomy and bilateral salpingo-oophorectomy were performed. Placenta was removed. Remnants of the amniotic sac were removed as well as possible. Convalescence was quite uneventful except for considerable abdominal pain and discomfort.

Case 4.—On September 30 when admitted to the hospital this patient was not in labor. She had been under the care of a physician who told her the baby was in a transverse position for which he attempted external version without success. When this failed he sent her into the hospital for a cesarean section. She was twenty years of age; Para I. The last menstrual period was December 4, 1932, making her due date September 12, 1933. Some time in January she began to notice sharp pains in the right side which her physician attributed to adhesions from a previous appendectomy. The

pains continued to grow more severe during several months, with fainting spells, nausea, diarrhea and occasional vaginal spotting. At one time a diagnosis of tubal pregnancy was made but this diagnosis was changed to normal pregnancy. The attacks began to grow less severe and disappeared entirely after the sixth month. Fetal movements had always been painful and during the last month the patient complained of pain in the upper left quadrant. Examination showed a head on the right side with buttocks on the left. The small parts were anterior. A rather large full term fetus was apparently transverse. There was an irregular mass above the symphysis which was believed to be the uterus. Diagnosis: Abdominal pregnancy. Operation: Midline incision. Amniotic sac was opened revealing a living fetus in good condition. The placenta was attached to the intestines on the right side. The right ovary was not located. There were a few adhesions between the uterus and placenta. The uterus was anterior to the mass. That portion of the amniotic sac that could be removed without bleeding was excised. The placenta was left *in situ*. The cord was cut close to the placental surface without ligating the stump. Convalescence was stormy. The patient complained of pain in the right side with considerable distention. There was still tenderness and pain on the right side at the time patient was discharged. The baby was sent home in excellent condition. A month later this patient was examined by the doctor who operated and he found a mass on the right side with considerable tenderness. He took her into the hospital again and did a secondary operation, removing the placenta. Patient did very nicely following this and was relieved of all of her symptoms.

Case 5.—This case is very similar to the preceding one. A white woman entered the hospital on July 25, 1933, with a diagnosis of a transverse presentation and placenta previa. She was thirty years of age; Para II. Past history: She had had an appendectomy and an ovarian tumor was removed several years previously. Patient had been spotting for twenty-four hours before hospital admission. She was about at term. She complained of indefinite abdominal pain during the early part of pregnancy but was free from same during the latter. Pre-operative diagnosis was the same as made upon admission. Operation: Under spinal anesthesia the abdomen was opened in the midline. There were a large number of omental adhesions. These were freed and the amniotic sac was found free in the abdominal cavity. It was opened and the child was removed. The baby was in excellent condition. The placenta was attached to the broad ligament below the insertion of the tube. The broad ligament was clamped and the placenta and sac were removed. All hemorrhage was controlled with figure 8 catgut sutures. The right ovary was partially destroyed. It contained a cyst which was punctured. Probably the blood supply to this ovary was destroyed in controlling the hemorrhage. The left ovary had previously been removed. The raw areas were peritonealized and the abdomen closed in the usual manner. Convalescence was uneventful. The baby weighed 7 pounds 11 ounces. Mother and baby were discharged in excellent condition on the fifteenth day postpartum.

Case 6. The patient was sent into the hospital with the complaint of vaginal bleeding. She had her last menstrual period about four and a half months before admission. About five weeks before hospitalization, she began to flow intermittently, passing large clots. Three weeks previously she began to have irregular bearing down pains in the lower abdomen associated with nausea and vomiting. At-

tacks would come on suddenly and pain was so excruciating that it necessitated resting in bed. Bleeding continued almost steadily for three weeks. The diagnosis was probable malignancy or threatened abortion. An x-ray examination confirmed the diagnosis of pregnancy and on vaginal examination under anesthesia the uterus was felt to one side of the mass. A sound was passed into the uterus. A diagnosis of abdominal pregnancy was made and operation decided upon. Operation: On opening the abdomen, the fetus was found in the abdominal cavity surrounded by the amniotic sac. The cord was cut and a dead fetus the size of a four and one-half months' pregnancy was removed. The placenta was somewhat adherent to the bowel and was removed with some difficulty. Hemorrhage was severe. Right tube was removed. Two Mickulicz drains and two pieces of iodoform gauze were used for drainage. This patient died shortly after she was returned to her room.

Case 7.—This patient had previously been in a small private hospital and was transferred from there. She had been treated palliatively for several days when seen by a consultant who had her transferred. On August 8, 1933, she entered this hospital in shock. She was moribund, with color suggesting hemorrhage, the pulse could not be palpated and there was practically no sound at the apex. Adrenaline, 15 minims, was given. It was impossible to get any fluids into the veins. Previous history was not obtained. Autopsy showed uterus was slightly enlarged. Right tube was replaced with fibrous tissue fused with part of the ruptured ovary. Dead fetus of four months duration was removed. A diagnosis of abdominal pregnancy was made.

Case 8.—A colored patient was admitted to a local institution complaining of pain in the abdomen. She had felt life for several months and had attacks of pain for six months previous to admission along with shortness of breath. She spotted daily for a week previous to her first admission, when a diagnosis of normal pregnancy was made and the patient was discharged. A few weeks later she was re-admitted with the same symptoms plus the fact that she was running a temperature of about 102°. Positive blood cultures of *B. coli* were obtained. She developed a lobar pneumonia in the left base which subsequently resolved. The course was febrile during her entire stay at this hospital. She had repeated transfusions and her blood culture findings became negative. The abdomen was distended so that it was impossible to palpate. Lipiodol was injected into the uterus and diagnosis of abdominal pregnancy was made. She was operated upon. A badly infected abdominal pregnancy of about six months' duration was encountered with some infected amniotic fluid with colon odor and much gas. Fetus and placenta were freed and removed. The sac was sponged dry and two large abdominal packs were left in the cavity. The edges of the sac were sutured to the abdominal wall. Patient had a stormy convalescence, temperature ranging from normal to 103°. Packs placed at operation were removed and the wound gradually closed by granulation. She was discharged in good condition.

Case 9.—These last two cases are very similar. This patient was brought into the hospital in shock after attempts to induce labor both medically and surgically in the home had failed. She was at term but had not felt the baby move for two or three weeks. The urine was loaded with casts. She had no headaches, spots before the eyes or elevation in blood pressure. She had crampy pains in the right lower quadrant for the past three weeks. She had quinine and castor oil followed by a course of pituitrin. A Voorhees bag had been inserted and

there had been an attempt made at manual and instrumental dilatation of the cervix. This necessitated several anesthetics. On July 22, 1933, she was operated upon after a diagnosis of ruptured uterus. In opening the abdomen, a full term abdominal pregnancy was found and a dead fetus was removed. The placenta was left *in situ*. The day of operation the patient reacted fairly well. She had some cyanosis. The following day after a nasal tube had been inserted patient felt very much better. Rather suddenly she had what seemed to be a choking spell and tried to get out of bed. On arrival of the interne, the patient was found dead. An autopsy was not performed, but it was thought that she had had a pulmonary embolus.

Case 10.—This was a most interesting case. The patient walked into the hospital. As she was beyond her calculated date of confinement, medical induction of labor was immediately started. Since that failed, she was taken to the obstetrical room where, under anesthesia, the cervix was manually dilated. This was of no avail, so she was brought back to the delivery room. Later on that day she was given another anesthetic and a Voorhees bag was inserted. The bag came out a few hours later, at which time she was four fingers dilated. The operator claimed that he could feel fetal parts through the cervix. Two days later another anesthetic was given and another bag inserted. She was seen that evening by a consultant who ruled out abdominal pregnancy because the operator could feel fetal parts through the cervix. On the following morning she was given yet another anesthetic and an attempt was made to rupture the membranes, which was without success. Her pulse at this time was around 140. She was gradually getting weaker and the following morning was taken to the operating room and examined under anesthesia by a consultant. The cervix admitted two fingers. The uterine cavity was explored and was found to be empty. The uterus was the size of a two and one-half months pregnancy. Diagnosis of abdominal pregnancy was made. On opening the abdomen a thick amniotic sac was exposed which was closely attached to the large bowel on the right and upper part. The uterus was felt in the pelvis in front of the amniotic sac. The left horn of the uterus ran into the mass, probably a left tubal pregnancy in the beginning. The sac was opened and was found to be filled with old blood, partly clotted, along with some brown fluid. A dead female fetus with beginning maceration was extracted. Examination showed the placenta in the wall of the sac attached flatly to the peritoneum with two large vessels running into the placenta. The placenta was easily removed. Raw surfaces where the amnion was covering the peritoneum were left without attempt to cover. The left horn of the uterus was removed and closed with catgut. The patient was in shock at the conclusion of the operation and lived only a few hours.

In analyzing these cases one finds that many of them had several symptoms and signs in common. Practically all of them complained of indefinite abdominal pains, especially during the first four months of the pregnancy. Most of the women had irregular spotting at some period during the pregnancy. The vaginal bleeding was profuse in only one case. Many of the patients had gastro-intestinal symptoms such as nau-

sea and vomiting, sometimes occurring during the entire pregnancy, being decidedly more marked than in normal cases. A firm, hard mass was felt in either lower quadrant in the majority of the cases and in at least one case definite contractions could be felt on massaging same. The fetus in almost every case was found on the right side. One case demonstrated how pyogenic bacteria sometimes gain access to the sac which is adherent to the intestines and gives rise to suppuration.

In any case that goes much beyond the date of confinement, one should at least be suspicious of an abdominal pregnancy and have an x-ray taken, a vaginal examination should be made if necessary under anesthesia, a sound passed into the uterus or lipiodol injected to confirm the diagnosis. It is

to be remembered that normal menstrual periods may be resumed after the fetus is dead.

On vaginal examination there is a point to remember and that is that the cervix very often points directly anterior and is behind the symphysis, making it extremely difficult to find the external os.

The question of whether or not the placenta should be removed at the time of operation cannot be determined in such a small series of cases, but it would seem that if it is attached to the bowel it is much wiser to leave it *in situ*. The end-result in one of these cases would probably have been better if the placenta had been left. If the placenta is attached to the broad ligaments alone, then it can be removed without danger to the patient.

THE DIAGNOSIS OF EARLY TUBERCULOSIS*

HENRY STUART WILLIS, M.D.†
DETROIT, MICHIGAN

As I mull over the problems that confront the worker in the field of tuberculosis today, I cannot but think of the relative freedom with which he may prosecute his work—freedom from the handicapping fear of contagion that for so long has dominated the mind of the patient. The layman has always inclined to fear the disease and to shun those afflicted with it. Such an attitude in the past has sent many an undiagnosed consumptive to his grave instead of to his doctor. Fortunately for physicians and society the public has come to observe a good deal of sense in its reaction toward those diseased and no longer condemns the consumptive to ostracism. Patients go to their physician when they have symptoms, and the physician needs all the finesse at his disposal to diagnose some of these. But it is an astonishing fact that even now three-fourths of the patients in whom tuberculosis is diagnosed are in the moderately or far advanced stage at the time of the diagnosis. This means that, in far too many cases, tuberculosis is ushered in with symptoms that are relatively insignificant and are insufficient to send the patient to seek medical advice while the disease is still minimal. This means also the

need of a departure from our accepted and conventional point of view if we are to apprehend large numbers of patients in the early stages of the disease. May we discuss briefly this question from the point of view: first, of the diagnosis of the patient who applies to the physician; and, secondly, of the detection of the disease in the early, asymptomatic state.

Medical literature is replete with discussions on the diagnosis of tuberculosis, and he is a hardy person who essays to add very much to the extant knowledge on the subject. However, it may possibly be profitable for us to review, together, as a group, some of the more important factors on which we may depend to make the diagnosis, especially in the early stages of the disease. Several dependable criteria have been added to our armamentarium since the days when symptoms alone offered the only basis for diagnosis and when the early physicians di-

*From the William H. Maybury Sanatorium (Detroit Municipal Tuberculosis Sanatorium), Northville, Michigan. Read before the Section on Medicine, Michigan State Medical Society, Battle Creek, September 13 and 14, 1934.

†Dr. Willis obtained the degrees A.B. at University of North Carolina, 1914; M.D. at Johns Hopkins University, 1919; M.A. at Johns Hopkins University, 1920. He was instructor in Medicine, Johns Hopkins University, and Visiting Physician, Johns Hopkins, until 1930. He was Pathologist, Wm. H. Maybury Sanatorium, 1930-1933, and is Superintendent and Medical Director, Wm. H. Maybury Sanatorium at Northville, Michigan.

agnosed "consumption" in those in a "decline," in those with cough and fever, with hectic; with spitting of pus. Laennec, as we all know, described symptoms and gave us the stethoscope and a masterly description of the physical signs of the disease. Koch pointed the way to the diagnosis by finding tubercle bacilli in the sputum. Pirquet enabled us to separate the infected from the noninfected, and Roentgen provided the means of determining accurately the presence, the extent and the type of the disease. In the scheme elaborated from the contributions of these four great medical names, we have all that is required to arrive at the diagnosis in the average, and, indeed, in the atypical case of tuberculosis.

There are those who would strip the diagnostic maneuvers to one procedure and thus make a quick but accurate diagnosis. Yet many hold it as essential that we base the diagnosis on maximal rather than minimal data; that there should inhere in the diagnosis a conception of the present status of the disease—a knowledge, at least an estimate, of the amount of debility and functional derangement which the disease has imposed upon its victim at the time the diagnosis is made. Surely we can proceed intelligently to treatment with no less.

What are these few essentials through which we move to the diagnosis? We are all familiar with them. I trust that it is within the bounds of the title to discuss the question from the standpoint of the value of the whole approach rather than to dwell upon the technic or the results of particular procedures.

Consider first the history of the case. In most instances the patient with early tuberculosis is asymptomatic. It is important to know whether symptoms have been present and, if they have, what and how severe they have been. It is helpful to know what the disease has done to the patient during the past weeks or months—since the onset—and what it is doing to him now. It must be known whether symptoms point to localization of the disease in the chest alone or whether they indicate complications or subsidiary foci elsewhere. To avail ourselves of the information which a good history will provide, we should sit down leisurely with the patient for 15 or 20 minutes and talk over his symptoms with him. We should be biased in our approach by inquir-

ing as to symptoms relating to the different systems of the body and the extent and duration of these symptoms. We should ascertain something as to exposure to tuberculosis; as to whether exposure has been casual or intimate and for a brief or an extended time; as to whether exposure was present during the childhood or adult years of the patient; as to whether in the exposure he who was the source of germs had been careful or careless in the disposal of his sputum and in his sanitary habits. Finally, we should ascertain data concerning such accessory factors as stress and strain, worry, overwork or loss of sleep.

A history taken in this way will yield the information that the patient may have fallen ill insidiously with fatigue, noted first as an inability to carry through his day's work as he formerly had done, and had developed a slight, dry cough which gradually grew more marked and became productive; that he had had a cold which never completely cleared; that he had lost his appetite or had lost weight; that he had been well until an hemoptysis drew him up short or pleurisy sent him to his doctor; that menstrual, gastrointestinal or laryngeal difficulties had beset him or that the lymph nodes of his neck had become swollen. Obviously none of these symptoms is pathognomonic of tuberculosis, but it is equally obvious that every one of them suggests the necessity of ruling out this disease.

Secondly and thirdly; the physical and x-ray examination. With the advent and extensive use of the x-ray, of what service is the physical examination? Do we need to go through this somewhat long and often laborious procedure when the x-ray will reveal the disease in detail? These questions arise repeatedly. At present it is difficult, if not impossible, for a doctor to justify his failure to have an x-ray of the chest in any case whatsoever in which there is suspicion of pulmonary disease. The ideal setup would include this procedure in each patient as an integral part of the examination. The x-ray detects small areas of disease and occasionally large ones which physical examination may overlook. It defines cavities more sharply and marks the limits of the pulmonary lesions more clearly. It is helpful, particularly in children, in indicating tuberculosis which escapes detection by physical examination. Frequently it will

fail to indicate the presence of fibrinous or dry pleurisy, distinguish between tuberculosis in the base of the lungs and chronic, nontuberculous pulmonary disease, or between the latter and pulmonary congestion from cardiac disease. It will suggest but it alone does not diagnose "activity" of existing tuberculosis. A technically satisfactory film is essential. A poor film is just as worthless as the sorriest, most carelessly done physical examination. One should require a good film and a good physical examination if one is to give the patient that judgment and advice for which he has come to the doctor.

The physical examination often fails to disclose the disease in part and sometimes altogether, although, when carefully done, it fails in this regard much less frequently than some are wont to believe. Yet it yields the clinician valuable information concerning the local disease, the amount of functional derangement which the latter has caused (*e.g.*, degree of expansion, etc.), an estimate of the disability which the patient has suffered; an evaluation of the patient's present general condition; it indicates the existence or nonexistence of tuberculosis elsewhere in the body or of other concurrent disease, for the examination should obviously cover the entire body and should never be confined to the chest alone. The physician acquires most of his clinical ability, wisdom and judgment—the "art" of medicine—through his contact with sick people. As he does his physical examination and studies the x-ray film he should mentally perform an autopsy on the patient and visualize the state of disease. Surely, with this attitude, he will be enabled to finally fit the data from all available sources into a fuller quantitative diagnosis than if he obtained data of but one sort.

At this point one may pause to remark that it is highly desirable to have coöperative endeavor and frequent consultation between the roentgenologist, who should know clinical medicine, and the clinician, who should be able to interpret the roentgenogram. Such contact can not but add to the diagnostic finesse of both.

In the next place, all of us recognize the value which the laboratory offers for the diagnosis of tuberculosis. Yet the laboratory examination may give the absolute diagnosis or it may be worse than worthless, depending upon how wisely the examined ma-

terial is collected and how carefully it is prepared and examined. The early case of tuberculosis sheds but few bacilli and these but intermittently. Therefore the casual collection and examination of a specimen, which is often only saliva, will give comfort to the patient and, at times, to the doctor because it will always be negative. The specimen should be the morning production which the patient *coughs* up, not what he clears out of his throat. It is often necessary for the physician to superintend the production and collection of the specimen. Bacilli are much more likely to be present in the very small, whitish, opaque masses than in the remainder of the specimen. So these should be selected for smear and stain. This means that the specimen should be collected in a wide-mouthed container, without a neck, and that care should be exercised in its gross examination. Examination must be repeated a good many times in most cases of early tuberculosis and concentration methods will yield tuberculosis bacilli not infrequently. No case may be called non-tuberculous on the examination of a single specimen. One certainly does not delay in making the diagnosis of tuberculosis because the sputum is negative, if the other parts of the examination indicate its presence, but for practical purposes a positive sputum makes the diagnosis absolute. Too often the physician is content to have the patient spit in a bottle (sputum, saliva or post-nasal secretion), and send this single specimen away for diagnosis.

An excellent example of the advantage of the laboratory examination is afforded in an experience of mine, which occurred not ten days ago. A young woman was sent to me with a story of rather stormy pulmonary symptoms which followed near strangulation on popcorn. Symptoms, signs and history suggested a basal abscess or bronchiectasis, yet the examination of three twenty-four hour specimens of sputum revealed tubercle bacilli in two.

So far this has been a sketchy account of the detection of pulmonary tuberculosis in the person who comes to the doctor. What about the discovery of this affection in those unsuspecting people who harbor it unknowingly? Does it fall within the province of the physician to seek out cases of tuberculosis in those who do not apply for advice? These two facts are true: first, that the expectation of cure is much greater for the

patient if his disease is discovered in its early stages; secondly, the patient, who unwittingly carries his developing disease into society for weeks or months before he feels himself ill enough to visit his doctor, spreads the seeds of his disease to many of his friends and contacts. Is it not incumbent upon us to resort to any available means possible that will save the patient from progressive disease on the one hand and, on the other, will protect society from the menace which he offers if he remains unapprehended?

How may the practicing physician anticipate tuberculosis in his clientele? "Tuberculosis begets tuberculosis." What is more logical than that the physician, once he has made a diagnosis, should anticipate the harvest from that case by examining the members of that patient's family and his other intimate contacts! Such an examination should invariably include an x-ray examination of the chest. The time will come and must come when x-ray examinations will be of sufficient volume to bring the cost within the reach of all and will enable the examination to be repeated as often as is deemed necessary. The doctor knows that tuberculosis may arise relatively rapidly and acutely; likewise he is aware that the seed which causes it may be dormant for months or years. Logically, then, he should keep the exposed family under rather close observation, be on the lookout for suggestive symptoms and, most important, put the contacts through a repeat examination twice a year.

His second attack on the situation should consist in encouraging an annual examination (including an x-ray examination of the chest) of the healthy members of his community. The degree to which this may be profitable to the patient, the community and the physician is shown by results reported by the Life Extension Institute, the larger insurance companies and many industrial organizations. His difficulty here is to get the patient to have the examination.

A third approach is one suggested recently by Amberson. He pointed out the known fact that the death rate among infants who have become infected with the tubercle bacillus is quite high, although the total incidence of tuberculous infection is not unduly high among them. Therefore the prevention of infection is a high duty of adult members of households that harbor or an-

ticipate children. Such groups may be brought to see the desirability of a yearly physical check-up and x-ray examination.

The practitioner should be alert to follow up the leads he may get from surveys which health departments and health societies make when they canvass the schools with their tuberculin testing and x-ray examinations, for these agencies report their results to the local physicians. Further, he should lend his support to such large scale efforts at case finding as are carried out among children and welfare charges.

In this search the physician has at hand a useful but insufficiently used weapon which is applicable particularly to the juvenile portion of his practice. This is tuberculin. The properly executed tuberculin test will indicate whether the tested child has tuberculous infection, but it will not give information as to whether the infection is a mere histological tubercle of relative insignificance that is tucked away in some remote part of the body or whether the infection is present as progressive, clinical disease. It indicates the groups—usually less than 25 per cent—of all children under fifteen years of age who should be explored further to ascertain whether their infection is active. At the same time it eliminates from necessary attention at the moment the seventy-odd per cent who are without infection. Tuberculin is much less helpful in dealing with adults because the incidence of infection is so high, yet persistent failure to react to tuberculin points away from tuberculosis as the diagnosis in a given, puzzling case.

If the practitioner will use tuberculin testing and physical and x-ray examination in his active search for asymptomatic but clinical tuberculosis, he will render his patient and his community a very real service in no small number of instances. Yet it does but little good to apply these examinations once and assume, as some do, that the tuberculosis problem is solved for that particular group. It is solved, but only for the time. If such a scheme is to become a practical weapon, it must be done in large numbers of people and must be repeated at least annually.

And if it should become feasible on this basis, would not the cost be a barrier to its execution? The cost is relatively great, yet the cost should not be great when we reckon it against the profit to the sick individual

and the community, for case finding must fit into the general scheme of anti-tuberculosis effort, which assumes prompt and adequate treatment of those in whom the diagnosis has been made.

In one series of 50,000 school children, the cost per case amounted to \$300; the cost per capita \$1.00. But the cost of treating an average case is from \$1,000 to \$1,500. Early detection should lessen the cost of treatment because the early case requires a shorter course of treatment. Also,

the bulk of work required by large scale examinations should of itself lead to a reduction in roentgenological fees.

Case finding in tuberculosis will doubtless become an increasingly important feature of public health agencies. At the same time it challenges the practitioner to find the disease within his own clientele and to cooperate in the endeavor to eradicate it.

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CHRONIC SINUSITIS IN CHILDREN*

FERRIS SMITH, A.B., M.D., F.A.C.S.

GRAND RAPIDS, MICHIGAN

It is a pleasure to appear before this section on pediatrics. My function in medicine is the management of a special phase only of the entire body function which is your immediate responsibility. Your officers have asked me to discuss this subject of chronic sinus disease in children because of an expressed feeling that I had some expert knowledge concerning it. I must decline the complimentary assumption and express the opinion that no one has a sound explanation for some of the pathologic phenomena noted in the upper air passages of children and adults.

We know so little of the normal physiology, so very little about the functions of the vegetative nervous system, the influence of the endocrine glands, the effects of food, temperature, humidity and other factors of environment, so little of the fundamentals of allergy, so little of the effects of useful therapeutic agents, etc., that it is absurd for anyone to pretend to a knowledge of the subject.

Fraser, Proetz, Hilding and others have added something to our understanding of the physics and the mechanical physiology of the sinus and nasal epithelium but nothing else has been produced to aid in our understanding of abnormal phenomena. Several observers have demonstrated the deleterious effects of some of the commonly employed drugs utilized in the treatment of these conditions and have classified the two therapeutic agents that can be employed without irritation. Please bear in mind that we are considering sinus disease and not the intranasal conditions that precede or follow it.

Proper prophylactic and therapeutic man-

agements will remain obscure until we know more of physiological, biological and physical chemistry. We are just beginning to realize that the effects of the actinic rays of the sun, of temperature, of relative humidity, of foods, of hygiene, on these chemistries determine the polarity and relation of cells which characterize health or disease. We must consider not only the effects of the local disease upon general body conditions but also the converse—the influence of the general body economy in producing the local disturbance.

These are inspiring and tantalizing speculations. They promise something for the future, but nothing of immediate practical value.

An understanding of the location and the recognized etiologic factors in our problem is essential.

The bone absorption producing the maxillary sinus is not complete at birth but a portion of the future cavity exists and has clinical importance in the first days of life. The frontal sinus, as such, does not exist at birth but assumes its adult form about the twelfth year. The sphenoid sinus is usually

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represented by a pit at birth and reaches its adult form about the twelfth year. It may become infected as early as the third year. Both the frontal and sphenoid sinuses may be considered a part of the ethmoid labyrinth during the first years of life. The latter is well developed at birth. Consequently, we have to consider the management of two sinuses which differ greatly in their physical arrangements and therapeutic approach. These sinuses have ostia approximating the adult size and are relatively larger at this period of life. This contributes to the ease of infection.

The etiologic factors may be generally classified as constitutional and local.

The constitutional factors include the infectious diseases, the allergic states, and the many things which diminish organic resistance such as endocrine dyscrasia, vitamin deficiencies, changes in temperature, relative humidity, poor hygiene and lack of sunshine. The local factors include all of the various obstructions to proper breathing and aeration of the sinuses.

Dean believes that "if it were not for the allergic states, nutritional disorders and endocrine disturbances, we would not have many cases of sinus disease."

Little is known about sinus physiology. We know the structure of the lining, the presence of a ciliated epithelial covering which propels a mucus sheet toward the ostia and of numerous glands to furnish this mucus. We know that the presence of certain chemicals paralyzes these cilia and that the absence of others (Vitamin A and B) produces hyperplasia and keratinization of the cells. We know that the absence of ventilation causes a metaplasia of these ciliated cells with consequent loss of protection. It is probable that the invasion of infection is secondary to these changes (Linton and Wenner). The chronicity and type of the infection and circulatory changes determine the pathological alterations which follow.

Symptoms and signs are as follows: Obstructed nasal respiration; frequent and protracted colds; nasal and post-nasal discharge; inflamed and fissured nostrils; sneezing; swelling of the eyelids; conjunctivitis and lacrimation; red or pale and boggy nasal mucosa; granular pharyngitis and enlarged and inflamed lateral bands.

The history should be taken with careful attention to the points that will reveal

a family allergy, dietary and hygienic faults, endocrine disturbances; influence of contagious diseases; environmental influences such as sunlight and fresh air.

The examination should be made by a competent rhinologist who will note the condition of the skin about the nostrils and lips; the color and circulatory condition (presence or absence of edema in the turbinates and mucosa) of the nasal mucosa; and the presence, source and amount of nasal secretion; the study of the cytology and bacteriology of the secretion is of prime importance. Dean believes that an eosinophilia in excess of 10 per cent establishes the presence of an allergy. The absence of eosinophils does not exclude allergy. An adequate explanation of the increase in these cells does not exist. The examiner will note the absence of secretion in the presence of a pale moist covering of the middle turbinal and meatus; the presence of granular pharyngitis and enlarged lateral bands; the presence of infected tonsils and adenoids and the presence of a cervical adenitis.

One must not overlook the physical signs and x-ray findings in the chest which belong to a chronic sinusitis and which are frequently ascribed to a chronic tuberculosis. The best combined effort and judgment of the pediatrician and rhinologist are involved in this appraisal.

Dean believes that all cases of recent influenza or colds with persistent fever, leukocytosis and malnutrition with an ear or respiratory diagnosis should be considered as dependent on a chronic sinusitis.

An appreciation of all that constitutes a chronic sinusitis is interesting and essential but it is vastly more important to know how to manage it. The two things are intimately related because the plan of treatment in several instances will evolve from an understanding of the causes which produced the abnormality.

At the outset of this consideration we must recognize that we are dealing with a pathological process in a cavity and that this cavity is not the nose. Consequently, much of the practiced treatment consisting of sprays, "drops" and packs become nonsense. They are a reflection upon the intelligence of the practitioner who uses them.

If we are dealing with a case with an allergic background, it is obvious that a local treatment has none other than a palliative value. If the patient is one with an

endocrine etiology, we must resort to mouse tests for pituitary and, later in life, ovarian dysfunction and proceed according to our findings. Thyroid dysfunction may also be estimated but, frequently, it is wise to prescribe empirically.

If we are dealing with malnutrition, we must recognize that, whereas proper diet is the foundation of a proper rhinological management, it cannot proceed without it. The cell damage has already been accomplished and cannot be corrected by diet alone.

Environmental factors may be altered but the damage has already been done. A change in this must be accompanied by therapeutic assistance.

There are only two ways in which a therapeutic agent can be introduced into a sinus: namely, a displacement by the Proetz method or direct injection through a canula or needle. All of the packs, drops and sprays have only a questionable effect on the nasal mucosa and can never influence a chronic sinus except through alterations in local circulation. It is highly probable that sprays and drops do not penetrate the mucus film over the nasal membrane sufficiently to have any material effect.

Only ephedrin sulphate and adrenalin chloride in normal salt solution may be introduced into a sinus without irritation. Both of these agents accomplish the desired effect in producing shrinkage with consequent ventilation, drainage and restoration of normal circulation. The chronic changes in children are not so marked as in adults and, consequently, the results of treatment are better.

Operations are rarely indicated except for the removal of infected tonsils and adenoids, the management of suppuration with bone involvement, reconstructions and not removal of anatomical deformities in the nose, and antrum irrigations. One of my friends has a long record of success in clearing chronic coughs and nasal symptoms with

one thorough antrum irrigation under primary anesthesia.

Another friend and former pupil has a series of nearly two hundred cases of treatment with minimum doses of x-ray. The results have been spectacular. The exposure has been made anteriorly over the nose and through each malar region. The dose is minute and only rarely repeated.

Those cases complicating or complicated by parenchymatous nephritis and nephrosis should be treated most conservatively. Ephedrin for shrinking and ventilation should suffice. The patients with glomerular nephritis resulting from a streptococcus infection should enjoy a similar conservatism and only suffer a surgical interference when a general septicemia threatens.

Finally one may consider the intracranial complications of chronic sinus disease. There are many reports of resolution of an encephalitis following a proper sinus treatment. The author believes that all cases of basal meningitis, not resulting from a constitutional infection, originate in an osteomyelitis of the basilar process of the sphenoid. This infection proceeds either along the veins which pass through the superior cortex to penetrate the dura mater or involves the dura by direct extension from the bone. There is an early period of several days duration when this process may be recognized and properly dealt with. We have several operated cases and much old pathological data to support our contention. This material will be included in a preliminary report in the near future.

In conclusion, the management of chronic sinus disease in children demands the application of the knowledge which is used successfully in the general management of the patient. If we divorce ourselves from traditional treatments which are not grounded on common sense and apply only a meager knowledge of physics and mechanics to sensible therapeutics, we will be rewarded with a large percentage of satisfactory results.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS*

HENRY J. VANDEN BERG, M.D., F.A.C.S.

GRAND RAPIDS, MICHIGAN

A discussion of the surgical management of congenital hypertrophic pyloric stenosis has been assigned to me in this symposium, and I shall, therefore, confine my remarks to that phase of it.

The first operation recorded for surgical treatment of congenital hypertrophic pyloric stenosis was a jejunostomy performed by Cordua in 1893 (forty-one years ago). In the five years following, various other types of operation such as dilatation of the pylorus, pylorotomy, pyloroplasty of one kind and another, were done, but the results were unsatisfactory and on the whole the mortality was high. In 1898, the first gastroenterostomy was performed for this condition and for fifteen years this procedure was the operation of choice, as the mortality in the hands of capable surgeons was not prohibitive. In the hands of most operators, however, the mortality remained high with the result that surgical treatment was advised usually as a last resort and it did not become generally popular until the more simple extra-mucous pyloroplasty was evolved. The first of this type of operation to be successful was by Fredet, in 1907. He performed successfully a sub-mucous pyloroplasty by means of a longitudinal incision throughout the length of the thickened pylorus down to, but not through, the mucous membrane; he then transformed the longitudinal into a transverse wound by means of sutures, but the tumor tissue was so rigid, yet friable, that it was almost impossible to suture it satisfactorily. In 1912, Rammstedt advised the omission of the transverse suture; he suggested employment of the longitudinal wound but to do nothing more. This simplified procedure, now known as the Fredet-Rammstedt operation, has resulted in revolutionizing the treatment of congenital pyloric stenosis. It is based upon the principle of the hypertrophied circular muscle constricting and obliterating an otherwise normal mucosa and lumen. Therefore, a simple longitudinal incision the full length of the tumor, cutting transversely the circular fibres and bringing about sufficient separation of these fibres, restores the normal lumen.

Technic†

An incision 2 inches in length, a little to the right of the midline, through the upper

right rectus muscle, gives the best exposure. The pyloric tumor is easily recognizable because of its size and firmness. It is grasped by the thumb and index finger and delivered through the incision. The incision should be made through the most bloodless part of the pylorus, which is on the anterior surface and usually at the juncture of the upper and middle thirds. After the incision has been made a pair of forceps is inserted into the center of the incision and spread gently to tear the undivided portion of the muscles in order to expose the mucous membrane completely. A blunt dissection is continued from the stomach toward the duodenum and carried in the line of cleavage to the duodenal ring. The separation of the incision in the muscular layers should be sufficient to permit the mucous layer to protrude freely into the wound beyond the level of the peritoneal covering. There is great disparity between the thickness of the hypertrophied pylorus and the thin-walled duodenum. The transition from one to the other is abrupt and great care is therefore necessary at this point of the operation to avoid tearing the duodenal mucous membrane. The hypertrophied muscle of the tumor gradually merges into the relatively normal muscular layer of the stomach, the wall of which is much thicker than that of the duodenum. There is, therefore, little danger of entering the lumen on the stomach side. While the operation is a simple one, considerable skill is required to do the job nicely and without cutting or tearing the duodenal mucosa. I have had the accident twice although I was exercising the utmost care to avoid it. If recognized and taken care of by a fine suture it is not a serious accident but it is easily overlooked and if so peritonitis is likely to follow and the result may then be disastrous.

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†The author illustrated his paper, particularly the technic of operation, by means of lantern slides.

In our experience, the Fredet-Rammstedt operation gives a perfectly satisfactory functional result. In one of our cases it was necessary to re-operate, but the end-results are very gratifying.

Strauss devised an extra-mucous pyloroplasty which has been highly satisfactory in his hands. He frees the mucous membrane throughout its circumference and the exposed portion is then covered with a flap derived from the thickened muscle layer. The Fredet-Rammstedt operation is technically simpler and so uniformly satisfactory that from being the operation of choice it has now become almost routine. There seems to be no reason to employ any variation. It may be said, I believe, that there is no more satisfactory operation in surgery than the Fredet-Rammstedt operation on a breast-fed baby in good condition.

Preparation for Operation

The operation should never be carried out as an emergency measure. Dependent upon the degree of starvation and dehydration, from one to three days are needed to prepare the patient for the ordeal of the operation, however simple it may be. In addition to the usual hypodermoclyses of 3 per cent glucose in salt solution, one or more transfusions may be given. The details of the preoperative preparation, as well as the after treatment, are usually managed by the pediatrician.

Anesthesia

The last years we have not used an inhalation anesthetic. We have used local

anesthesia instead, supplemented by paregoric, whiskey and a sugar pacifier, perhaps. This method is entirely satisfactory and it is safe.

We have operated in thirty-four cases, in one by the Strauss method, and in thirty-three by the Fredet-Rammstedt method. We had one death on the day of operation, and one death two months after operation which was said to have been caused by colitis. This latter did not seem, in any way, traceable to the operation. The average age at the time of operation was eight weeks. Of the thirty-four cases, twenty-seven patients were male and seven female, a ratio of four to one, which is quite in accordance with the rule.

I realize, of course, that medical treatment and management of this condition is satisfactory in a good percentage of cases, but it is not wise and fair to extend this type of treatment over a period of weeks and months with resulting increased susceptibility to infection and the possibility of permanent damage to the growing infant from impaired nutrition at a critical stage in its development. If, on the other hand, as soon as the diagnosis is made, the infant be given the advantage of surgery it will soon be on the breast again and the loss of weight will be negligible. The so-called operative mortality is due largely to delay in diagnosis or to delay in advising surgery. Convalescence after operation is rapid and the infant returns almost at once to normal development.

TREATMENT OF TRICHOMONAS VAGINALIS VAGINITIS*

J. CAMPBELL SMITH, M.D.†

DETROIT, MICHIGAN

A great deal of literature has appeared within the past few years in the various medical journals on this interesting subject. However, the condition is such a common one, occurring as it does in twenty per cent or more of all gynecological patients, and is still being not diagnosed or confused with other conditions by so many medical men, I feel that it is wise to bring certain phases of the subject to your attention.

I will not delve into the history of this infection, other than to say that, although it has been described numerous times during the past hundred years, it was not until four or five years ago that we began to pay much attention to it. Many patients appeared with a vaginitis, the exact nature of which was not determined, and when smear after smear was reported negative for the gonococcus organism, they were subjected to all manner of treatment, and in many instances even cervical amputations and total hysterectomies were done in a futile effort to eradicate the discharge. Later on, when we began to realize that such a condition as trichomonas vaginalis vaginitis really existed, these cases did not present such problems to us, for most of them cleared up quite promptly by simple office treatments.

The difficulty still presenting itself is our lack of knowledge as to the life cycle of the organism and the focus or foci of the infection. We know that it is a simple, single-celled flagellate, which reproduces by longitudinal binary fissure; that it is identical with, or closely related to, trichomonas intestinalis, which is found in the intestinal tract; no spore or cyst forms have been described. The organism has been found repeatedly in the mouth, rectum, bladder, prostate, kidneys, and vagina. There has been much conjecture over the organisms found in areas other than the vagina and many men have argued that the vaginalis parasite is not related to those flagellates found elsewhere. However, the only differences noted have been in the lengths of the undulating membrane, and some variation in size and shape, but Stein‡ has shown that these changes can and do occur when

the flagellate is placed in different areas, in different media, and under various changing conditions, so I think it fair to assume that they are all one and the same organism, or at least very closely related.

The symptoms of trichomonas vaginalis vaginitis are very characteristic and a diagnosis may usually be made by the history alone. Profuse discharge, with or without burning and itching about the introitus, and dyspareunia are the usual complaints. In many acute cases the profuse discharge has caused excoriation with intense burning of skin around the vulva, occasionally extending well down onto the inner surfaces of the thighs, even to the knees. A great many women complain *only* of discharge, particularly just preceding and following a menstrual period.

Examination of acute cases reveals redness about the introitus, and on separating the labia we find either a diffuse intense inflammation of the vaginal mucosa, or a moderate general redness with numerous areas of what appear to be petechial hemorrhages. The entire vagina is bathed in a very profuse, thin, frothy or bubbly, pea-green discharge, and there is exquisite tenderness throughout, even to a soft piece of cotton. In less acute and chronic cases this picture varies, and we may find no inflammation whatsoever and a thicker, whitish discharge, which is somewhat more profuse following a menstrual period or during a pregnancy. The individual resistance to the infection, of course, modifies the symptoms and findings.

The diagnosis is made very readily in the average case by stirring some of the vaginal discharge in two or three drops of normal saline solution on a slide, covering with a cover slip, and examining under either a high power or oil immersion lens. The flagellates are easily made out by their size,

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†Dr. J. Campbell Smith graduated from the Detroit College of Medicine and Surgery in 1924. He served his internship at Harper Hospital in Obstetrics and Gynecology, 1924-1927, and, secondly, at the Herman Kiefer Hospital as resident obstetrician from 1927 to 1928. His specialty is Obstetrics and Gynecology. He is on the staff of Harper Hospital.

‡Stein, I. F.: Am. Jour. Obst. and Gynec., 25:819, (June) 1933.

shape and motion, and if examined carefully under the oil lens even the flagellæ are discernible. In many cases active motile organisms are not found and the cells seen in the various fields examined appear to be pus cells, except that they are slightly larger. If we are patient and study these latter cells at length, usually we find one or more of them push out from a perfectly round and symmetrically appearing cell-body what appears to be a pointed head with flagellæ attached. These cells, under cursory examination, look like leukocytes, being multinuclear and granular, but closer inspection reveals them to be slightly larger than the average pus cell and somewhat more granular. These forms are frequently spoken of as spore or cyst forms, but incorrectly so, I believe, my interpretation being that they are simply resting forms or immature forms. In chronic cases and in those individuals whose resistance to the parasite is quite marked, it is impossible as a general rule to make a positive diagnosis of trichomonas vaginalis vaginitis during the intermenstrual period, and it is customary to have these patients return within forty-eight hours after cessation of the menses, with instructions not to douche, at which time active motile organisms will be found, if the disease exists. Likewise this procedure is followed with patients who have been under treatment to determine whether or not the condition has been cured.

Treatment

The very multiplicity of treatments in use proves that no one universally adequate method has yet been discovered. Almost any one of them is satisfactory for the majority of cases, if persisted in over a long enough period; all of them will relieve the distressing symptoms, but, unfortunately, recurrence is the general rule. Probably the most widely used method, the so-called "wet" method, is that of scrubbing out the vagina with tincture of green soap, rinsing out with water, drying, and the application of any one of numerous medicaments, such as glycerine, boro-glycerine, glycerine with soda bicarbonate or sodium borate, methylene blue, mercurochrome, gentian violet, acriflavine hydrochloride, tincture of iodine, hexylresorcinol, lead acetate, metaphen, Lassar's paste, zinc oxide ointment, neo-arsphenamine, and a host of others. These procedures are usually followed by instruc-

tions to douche with lactic acid two or three times daily.

The "dry" or powder treatment consists of wiping the vaginal mucosa with cotton until dry, and then instilling any one of a number of powders, such as quinine sulphate, soda bicarbonate or sodium borate, phenol in boric acid, powdered sulphur, stovarsol, and others.

Probably any one of the above-mentioned methods, if used intelligently and conscientiously, will produce results in a large percentage of cases, but experience has shown that no one method of treatment thus far described will cure *all* patients. Just when we are about ready to proclaim to the world that at last we have a specific cure, our pride is rudely jolted by finding a very stubborn infection which fails to respond to this treatment. On the other hand, many of these resistant cases will clear up surprisingly readily, if another form of treatment is instituted. It is my firm conviction that all such infections are curable, and it is up to us to be able to find the proper medicament for each individual case. If we are using one mode of treatment routinely, and a case or two appears to resist our best efforts, providing we are sure the patient is coöperating and following instructions, the wisest procedure to follow is to use some other method, and, if this fails to produce results, try still a third method, and so on until something is found which eradicates the disease. However, before deviating from our routine, it is advisable to determine whether we are dealing with re-infection, lack of coöperation, or a resistant flagellate. I feel that many of our failures are probably the result of constant re-infection and perhaps to the neglect of the patient in following our dicta.

When this disease was brought to our attention several years ago, it was commonly thought that practically all such infections were self-induced; that is to say, women generally cleanse themselves after defecating by wiping from the anus forward toward the vagina, and it was argued that, since the trichomonas intestinalis parasite is commonly found in the stools, the organism was deposited on the perineum and found its way into the vagina, where it underwent transition and assumed the vaginalis form. This belief still prevails amongst most practitioners, but I must take issue with it. There are undoubtedly nu-

merous patients who harbor the organism in the intestinal canal, which acts as a focus and is responsible for recurrent vaginal infections, but I do not believe this is responsible for the majority of our vaginitis cases. If this were true doesn't it appear logical to assume that all patients would have re-infection after re-infection, as long as the parasite remained in the bowel, and we seldom direct any attention to this area, from the standpoint of eradication of intestinal flagellates? It is my conviction that most infections are indirectly transmitted from patient to patient by way of the toilet seat and bath tub, and occasionally by means of a third party, the male, in coitus. A toilet seat is readily contaminated by a woman who harbors the parasite, and during bridge parties, etc., when the lavatory is usually in great demand, how easily a clean individual might and does pick up the infection. How frequently do we find one member of a household reporting to us with an acute trichomonas vaginitis, to be followed very shortly by her daughter or sister or mother? One patient came to me with an acute infection, which responded very nicely to treatment, and I found her entirely cured of the disease for almost six months. When she again reported with an acute vaginitis, and maintained that she had not sat on any toilet except her own and that no females, other than her three-year-old daughter, had used her lavatory seat, I requested her to bring her child for examination, and was not surprised to find active motile flagellates in a smear from the vagina of her daughter. In this instance, the mother had the primary infection; the child was infected from the toilet seat or bath tub, and later on the mother unsuspectingly again picked up the infection from the toilet seat, the daughter being the contaminating agent.

When a patient first presents herself for examination, a smear of the vaginal discharge is made, and if positive for the trichomonas organism, routine treatment is begun. Just as important, however, are the instructions given to the patient to be followed at home. As a precautionary measure, she is told how to cleanse herself after stool, and, if douches are to be used, the tip or nozzle should be washed with soap and water after using and placed in a strong lysol solution, and again rinsed thoroughly in water to remove all traces of lysol before

douching again. The bath tub and toilet-seat should be washed off before and after using with a weak lysol solution, but it is preferable for the patient to take shower baths only and not to sit on any toilet. Further, coitus should be advised against until a complete cure has been effected, but, if indulged in, the use of condoms is urged. Office treatments are given every two or three days, even though the patient is menstruating, and should be persisted in conscientiously until the infection has been eradicated.

If there is intense inflammation present, office treatments are very painful, and therefore it is customary to have patients douche several times daily with lactic acid ($\frac{1}{2}$ oz. to two quarts of water) for several days before attempting any treatments. Because of this acute distress occasioned by scrubbing out the vagina with tincture of green soap, and also because of the numerous failures encountered, I have abandoned the "wet" method of treatment and have tried out several powders with varying success. The form of treatment which I have been using for several months and which seems to give the most satisfactory results, with no failures to date, is the following: The vagina is wiped dry of all discharge, and is then painted with a 1 per cent aqueous solution of gentian violet. After permitting this to dry for a few moments, an amebicide powder mixture, suggested by George Gellhorn, St. Louis, is blown into the vagina by means of a powder blower, likewise recommended by Dr. Gellhorn. The powder mixture consists of acetarsone (stovarsol), a synthetic arsenical, used widely for the oral treatment of amebic dysentery and other protozoic conditions, and equal parts of kaolin and sodium bicarbonate. The average dose is 1 teaspoon of the mixture, containing 7.5 gr. of stovarsol, and this dosage is usually doubled when treating during the menstrual period or a pregnancy. The powder blower is so designed that it causes a ballooning out of the vagina, and thus the powder is deposited in all the crevices and folds of the vaginal mucosa. Gentian violet is used empirically, because many men feel that the primary invading agent is a yeast, the trichomonas entering later and the two acting symbiotically. Gentian violet is a known specific destroyer of yeast parasites. The treatments are given every second day and the number has varied from

four or five to a dozen or more. No douches, baths or coitus are permitted, and the results have been very gratifying, several stubborn cases treated by other agents having responded readily to this more recently tried method.

For those patients living out of the city, in the country, or who for some reason or other cannot come to the office for treatments, nothing can be done at present, other than douching. Lactic acid is usually pre-

scribed, but common ordinary vinegar is just as effective, and I have one poor patient who completely eliminated the infection by the use of vinegar douches.

In conclusion, may I again emphasize the prevalence of trichomonas vaginalis vaginitis, the advisability of routine microscopic examination of vaginal smears of all gynecological cases, and the hope that further research work will soon clear up this puzzling problem.

FACTORS AFFECTING THE IMMUNITY BALANCE IN DERMATOPHYTOSIS*

LOREN W. SHAFFER, M.D.†
DETROIT, MICHIGAN

It has been shown that the animal body is altered specifically and permanently by infection with living fungi. The study of its immunity is therefore a problem in allergy. The fact that an attack of dermatophytosis does not render a patient immune but seemingly increases his susceptibility, that attempts at desensitizing guinea pigs with extracts of fungi have failed, and that the allergy developed at the height of infection produces those very lesions (trichophytids) we wish to guard against, would seem to destroy the hope of producing lasting immunity by vaccine therapy. It would be of great value to know how immunity may be induced, but, until we have more definite knowledge of this, consideration must be given to those factors affecting the immunity balance, which play such an important rôle in the induction of acute clinical involvement and resistance to treatment. The balance between immunity and active infection is evidently a delicate one, and many factors may precipitate clinical involvement in the presence of latent or dormant fungus infections.

Susceptibility to infection varies with age and males are seemingly more susceptible than females. A high degree of immunity is present in infancy and old age. Susceptibility increases rapidly at puberty and reaches its peak in adult life. In my report with Cary¹¹ on "Epidermophytosis in School Children," we found clinical evidence of at least an infectious intertrigo, due either to fungi, monilia or cocci, in 9 per cent of the first grade children, with ascending percentages per grade reaching 76 per cent of senior high school students. This incidence is practically the same for schools with or without gymnasiums and similar percen-

tages were found grade for grade in a country school without communal bathing facilities, forty miles from Detroit. Pels and Schlinger¹⁰ report 60 per cent of 810 casuals examined as positive for fungi, while 36 per cent were clinically positive. Numerous other reports of incidence of clinical involvement or positive laboratory findings make it safe to estimate that 50 per cent of all young adults are constantly involved, and it is my belief that this would approach 100 per cent in any group re-examined frequently over a period of years. Although this high percentage of cases shows clinical or laboratory evidence of infection, less than 2 per cent have moderately severe degrees of clinical involvement, indicating a relatively high degree of immunity. It is then only the exceptional individual who is not able to keep his infection under control through his own defense mechanism.

There has been, to my mind, entirely too much emphasis placed on exposure to fungi as the sole cause of dermatophytosis. Granted that the presence of fungi is necessary, it is my aim to show that it is impossible to avoid exposure, since fungi of the Kaufmann-Wolf type are almost as ubiquitous as the staphylococci. Realizing

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†Dr. Shaffer is a graduate of the University of Michigan, 1917. His practice is limited to Dermatology. He is a member of the American Dermatological Association.

the difficulty of killing these spore bearing fungi plus the large number of carriers who are constantly infecting all objects commonly in contact with either the hands or feet, it must be accepted that sources of infection too numerous to mention are constantly about us. Jamieson and McRea⁵ have shown that the skin harbors fungi in its depths even after an acute attack of ringworm has subsided. Strickler and McKeever¹² report the finding of fungi in normal appearing skin at a distance from active lesions. We see many cases of onychomycosis where the nails are a constant source for reinfection. Although these patients are quite susceptible to ringworm infection as shown by the rather unusual involvement, very few of them suffer more than an occasional attack of acute dermatophytosis. On such occasions some predisposing factor can usually be elicited. We, as dermatologists, are being constantly exposed to active infection, yet, without undue precaution, the number of us who suffer from acute attacks of eczematoid ringworm is no greater than for professional men in general. Therefore, acute infections cannot be explained simply on a basis of exposure, but rather on some drop in the patient's resistance to infection. Any effective control of the ringworm problem must depend upon rendering the skin as soil unsuitable to the growth of fungi, or in preventing those precipitating and predisposing factors that permit an otherwise dormant infection a foothold.

It is advisable to instruct patients in a reasonable amount of care against infection or reinfection with fungi, but the time and worry spent by patients in the will-o-the-wisp endeavor at sterilization and avoiding exposure had much better be spent in prophylactic measures and rendering the feet less susceptible to infection. We recognize that it is practically impossible to keep the skin surface free from cocci, and when a patient has recurrent furunculosis our problem is that of building up his immunity and correcting predisposing factors, rather than sterilizing the skin. Therefore, the problems of treatment are not alone that of finding highly efficient fungicides to combat active infection. The most effective applications clinically are simple ones, such as boric acid, salicylic acid, ammoniated mercury and iodine. A most important problem is that of correcting the factors predisposing to infection.

What are these predisposing or precipitating factors that permit an otherwise dormant organism to multiply and cause clinical activity? Undoubtedly heat and sweating of the feet are two of the most common predisposing causes. You have all seen acute attacks following an unusually hot spell, exposing the feet to the heat of a long motor trip, the wearing of high boots over heavy woolen socks while hunting, etc. These attacks can be explained readily on a basis of heat and moisture making an ideal soil for the activation of dormant fungi. My associates and I were impressed by the observation in school children that active involvement was seldom present if the feet were of the long, narrow type with readily separated toes. Conversely with short thick feet and stubby, overlapping toes, involvement was almost constantly present. This again might most readily be explained on a basis of retention of heat and moisture.

Cleveland J. White¹³ reported eighteen cases in which a peripheral occlusive endarteritis was the cause of unusual obstinacy of dermatophytosis to treatment. These cases responded promptly when this vascular disturbance was recognized and appropriately treated. Varying degrees of stasis, both arterial and venous, probably play a more important rôle in predisposing to eczematoid ringworm than is commonly recognized.

David and Eugene Liberthal⁸ have emphasized the importance of flat feet as a predisposing cause of dermatophytosis. They report that 90 per cent of a series of 195 patients were so affected. The rapid response of otherwise resistant cases to ordinary therapeutic measures following the correction of flat foot deformities justifies the conclusion that orthopedic corrective measures are an important therapeutic adjunct in cases of fungus infection associated with flat foot. Cornbleet⁴ has also called attention to the importance of orthopedic corrective measures as an adjunct to local treatment in resistant infections. He has shown experimentally that short, ill-fitting shoes increase remarkably the sweating of the feet and thus cause resistance of eczematoid ringworm to treatment.

Lehmann⁶ has called attention to the importance of internal influences, particularly on the dysidrotic types of dermatophytosis. He feels that there is an underlying trophic change in these cases, affected by multiple influences, and governed by the sympathetic nervous system. S. Becker¹ studied this

same background in the class of vesicular eruptions of the hands and feet, often simulating dermatophytosis, that he classifies as dysidrotic eczema. It is common knowledge that focal infection may play an allergic rôle in this type of eruption.

Further consideration must be given to the predisposing factors that govern the localization of eczematoid ringworm largely to the folds of the body; *i.e.*, the axillæ, groin and between the toes. The extensive works of Cornbleet² on the sterilization powers of the skin show that this bacteriostatic or fungistatic action is much reduced in such areas of skin folds, and that excessive perspiration still further lowers this bacteriostatic action. Marchionini,⁹ Levin and Silvers,⁷ and others have shown that the hydrogen-ion concentration in these areas is definitely toward the alkaline side, varying between 6.7 and 7.2, while on the general skin surface it is acid, varying between 3.5 and 5.0. Such an explanation for the selective localization of dermatophytosis is plausible and simple. It offers a rational method for prophylactic and therapeutic management. Cornbleet,³ however, studied this problem and reaches the conclusion that there is no proof that the self-sterilization powers of the skin are due to surface acid. He claims that any value accruing from the use of acids locally is due to their direct fungicidal activity and that they cannot affect for long the highly buffered hydrogen-ion concentration of the skin unless used in such concentrations as to produce local irritation.

Dermatophytosis is no respecter of hygiene or social status. Seemingly acute attacks are more frequent in those who bathe frequently. In our studies on incidence of epidermophytosis in school children the general index was the same for all schools regardless of communal bathing facilities, but moderate to severe degrees of involvement were more frequent in schools in the better districts with gymnasium facilities. Although the same percentage were infected some factor was at work predisposing to active clinical involvement. The accepted explanation of exposure to more virulent organisms hardly fits with the facts as already emphasized. Some precipitating factor must be present causing activation of dormant infection. I felt at first that this might be due to the added physical activity, or wearing of rubber-soled tennis shoes, affecting the

heat and moisture factor. Any explanation for this beyond exposure, and the known precipitating factors enumerated, would be highly theoretical until more data are acquired. The increased activity at puberty might be explainable on a basis of altered local glandular activity, such as with the sweat glands. It would not explain the varying susceptibility that permits only occasional activity in an individual. A simple explanation would be that there is some local protective substance developed in or on the surface of the skin in the form of a bacteriophage or a fungiphage. In relation to fungi particularly, it would be more reasonable to suspect a toxin or acid developed by their growth that accumulates and acts as an inhibitor along the lines of the hydrogen-ion concentration studies mentioned. We know that the growth of fungi cultures is eventually stopped by the accumulation of auto-intoxicating products of their metabolism. It may seem a far step to the clinical application of this principle to control of pathological fungi on the skin. However, it fits the facts of almost universal infection with active involvement only when precipitating factors are present acting to remove or dilute the protecting substance (sweating, soap and water). As stated, this theory is purely conjectural, but I believe it offers a lead worthy of further investigation.

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INFANTILE ECZEMA*

GEORGE VAN RHEE, M.D.†
DETROIT, MICHIGAN

Since the beginning of the nineteenth century, the conception of eczema has been changing. Many separate and distinct diseases which had been grouped under this title have gradually been eliminated. In dermatological circles, there have been many divergent opinions on what is eczema. Eczema must be considered as not a distinct pathological entity, but rather as a symptom complex in the skin produced by innumerable causes. It is a form of simple dermatitis which can be produced by ordinary external irritants. By that, I do not mean to infer that every inflammatory process in the skin must be regarded as such. For example, erythema multiforme, seborrheic dermatitis, and other dermatoses are definitely inflammatory processes, but cannot be produced by external irritants. Possibly, if we remember this conception of eczema, we may be better able to grasp its causes and formulate more adequate methods of treatment.

The causes of eczema are many and varied. It is sometimes difficult to evaluate their relative importance; many of them are secondary or contributory. It is known that factors which cause eczema in those predisposed have no effect on the majority of infants.

Eczema in itself is not hereditary, but the tendency to the disorder may be transmitted from parent to child. Stokes² states that at times there is a state of inborn tissue lability and hyperirritability that is hereditary in character.

The relation of diet and digestive disturbances to eczema has been studied by many. Towle and Talbot³ found a frequent association of fats and sugars in the acute exudative types of infantile eczema. White⁵ in a study of the stools in infantile eczema found excessive fat and starch, the former in the moist, the latter in the dry type.

Clinically, it is an undisputed fact that fat, over-fed babies with eczema improve when the food intake is reduced. It is also common observation, that if this same child becomes ill with some intercurrent infection, and eats very little, his eczema will improve and even disappear entirely, only to recur when he recovers and resumes his former diet.

Blackfan, Schloss, Walker,⁴ Engman¹ and others have shown a high percentage of protein sensitization in infantile eczema by the various cutaneous tests, while Baker reported a negligible incidence in noneczematous children. This conception has not only been the cause of much enthusiasm and optimism, but also resulted in much confusion and contradiction. Some infants are sensitive to foods not included in their diet. This contradiction can be explained in breast fed infants when hypersensitiveness might be transmitted through the mother's milk, but certainly not in artificially fed babies.

Particularly troublesome are the cases that react positively to several foods. When placed on the proper diet, the child improves, the eczema disappears, and may remain well for a month or more; then it recurs and the infant will be sensitive to every protein in the diet and negative to those which gave a prompt response a month ago. This condition is difficult to explain, unless the cutaneous tests are only an index to allergy of the skin, and have no bearing on the etiologic factors in eczema.

The different technics used in determining the cutaneous reactions are:

1. *Dermal or Scratch Method*: A superficial linear scratch $\frac{1}{8}$ inch (0.32 cm.) in length is made in the skin without drawing blood. The suspected material, usually in powder form, is moistened with tenth normal sodium hydroxide or physiological saline if the skin is very sensitive and gently rubbed in the scratch. The positive reaction consists of an urticarial wheal on an erythematous base and is usually obtained in from ten to thirty minutes. The alkali alone may be used as a control.

2. *Intradermal Method*: A small quan-

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†Dr. George Van Rhee is a graduate, University of Michigan, 1915. He served his internship at Harper Hospital, Detroit, Michigan, 1915-16. He is Associate Professor of Dermatology, Wayne University, College of Medicine, Associate Attending Dermatologist, Receiving Hospital, and Physician, Out-patient Department of Dermatology, Harper Hospital.

tity of the proper dilution of an extract of protein is injected between the layers of the skin. The positive reaction is also an urticarial wheal on an erythematous base. This test is frequently more reliable than the scratch method. If it is done properly, it is free from danger.

3. *Indirect or Passive Transfer Test:* One-hundredth of a cubic centimeter of the sterile serum of the patient is injected into the skin of a nonallergic patient at several sites, which are tested dermally or intradermally forty-eight hours later. Tests with the same substances are made in the control area, a short distance from the prepared sites. Reactions are recorded in the same manner as in the direct tests. This test is of value in children who suffer from generalized eruptions, and present no healthy skin for direct testing.

4. *Patch Test:* The suspected substance is applied to the skin and allowed to remain for forty-eight hours. If the substance is an insoluble solid it is crushed, covered with gauze or blotting paper moistened with buffer saline and held in place by a square of adhesive. If the substance is a liquid the blotting paper is simply moistened and covered as before. A positive test may be obtained in a few hours or several days. The concentration of the substance should not be an irritant to the normal skin. The test is positive if there is a patch of dermatitis at the site, or a flare-up of the existing dermatitis in distant parts. This test is of particular value in contact dermatitis such as feathers, clothing, furs, cosmetics, soap, animal danders.

A positive reaction by any of these methods is not always significant of the proper diagnosis, or the etiologic factor producing eczema. We recently treated a child 12 years of age who had very typical lesions of pityriasis rosea on the chest and trunk. This condition had been diagnosed as an eczema by another physician simply because the scratch test gave positive reactions to certain food proteins.

Indiscriminate subjection of children with eczema to a large number of skin tests is not justified. Cutaneous tests serve as aids in determining the etiology and diagnosis. We are still of the opinion that a detailed history together with a careful appraisal of the dermatologic lesions is in most cases of greater value in arriving at the cause and proper diagnosis.

The chief offending proteins are egg white, cow's milk, breast milk, oats, wheat, barley. In older children positive reactions to cod liver oil and onions were obtained, when they were removed from the diet, the therapeutic response was good.

External irritants may cause infantile eczema, but probably not as frequently as in adults. Due to the peculiar sensitiveness of the cutaneous vasomotor mechanism, the skin of infants is readily affected by exposure to light, to cold and other climatic influences. Irritation from soap and water, furs, feather pillows, toilet articles which contain orris root frequently cause or aggravate an eczematous conditions. When fabrics such as silk and wool cause irritation, cotton or linen mesh underwear should be substituted.

Certain cases of infantile eczema, especially those of the intertriginous type, fungi, such as monila, may be a causative factor. Then again, we see rather dry, oval, rounded, slightly scaly lesions, not of as deep color as the ordinary eczema, not vesiculopustular and rather sharply circumscribed in outline, which we believe are due to fungi.

In fat babies, and also marasmic children, where the hygiene is poor, maceration, friction, decomposition, products of cutaneous secretions, urine and feces frequently produce an acute dermatitis known as eczema intertrigo. Nasal and aural discharges are responsible for an infected eczema of the upper lip, ears and neck. If there is no discharge from the ears, pediculosis capitis may produce a similar type of irritation.

The pathogenesis of eczema in infancy and children does not differ from that of eczema in an adult. The child frequently develops a red congested condition over the flush areas of the cheeks, which becomes swollen and somewhat infiltrated. In a little more intense stage it shows papules and vesicles surrounded by an erythematous halo. It is now an acute dermatitis. The surface weeps profusely, the serum dries into crusts, which pile up one over the other and increase the congestion. At this stage the patches may be secondarily infected, discharge quantities of pus which dries on the surface in yellowish crusts. This is known as an impetiginized eczema. Eczema intertrigo has already been described.

Besides the cheeks, the eruption appears on the chin, forehead, scalp, the folds behind

the ears, and the neck. At the same time it is likely to spread to the wrists, the legs, buttocks, and the inguinal folds. Between these sites small discrete patches are frequently scattered over the trunk and extremities.

In older children we may find the same diffuse, or circumscribed patches in the acute stage of congestion, followed by oozing and crusting papulo vesicles, or a subacute stage of dull redness, moderate infiltration; still later a more chronic stage with lichenification which is a dull leather-like thickening of the skin due to an exaggeration of the normal skin lines from persistent scratching and rubbing. The areas most frequently involved are the nape of the neck, cubital and popliteal spaces and the upper chest and back.

In considering eczema of infants and children, dermatoses which are frequently attributed to it must be excluded. Scabies, pediculosis corporis and pubis, impetigo are often followed by an eczematoid dermatitis. In scabies, the lesions are more discrete and less apt to form patches than in eczema. The itching is more severe at night, while in eczema it is paroxysmal. The lesions are found chiefly on the wrists, hands, axillæ, umbilicus and the buttocks, the shaft of the penis in male children, and never on the face except in nurslings.

Impetiginized eczema is due to the implantation of staphylococci on an eczematous area, while an impetigo contagiosa is a similar process developing spontaneously. Both conditions are very common, and produce thick yellow crusting on an inflammatory base.

Chronic symmetrical impetigo is frequently regarded as an eczema but should be excluded. It occurs as persistently red oozing patches of dermatitis with hard, yellow, tenacious crusts. The lesions are distributed symmetrically over the face and extremities, especially over the arms.

Acute and chronic dermatitis venenata, which results from contact with chemicals, plants and drugs, often present an eczematoid appearance, and may be mistaken for eczema. In many cases the two affections are indistinguishable. A history of the external application of the irritant is important. Frequently the area of the dermatitis is limited to the area of the application of the irritating substance. The onset is sudden and the inflammatory process entirely

subsides on withdrawal of the irritant.

Seborrheic dermatitis is frequently mistaken for eczema. It usually affects the eyelids, the post-auricular spaces, scalp, face, upper chest, as well as the flexures. The dull red color, greasy scaling instead of crusting differentiate it from eczema. The course is chronic, the infiltration and oozing much less than in eczema. Eczema may be superimposed on a seborrhea.

Napkin eruption of the buttocks is an erythematous eruption which at a later stage becomes studded with erosive papules which are covered with shiny crusts. It is due to ammoniacal urine and should not be confused with eczema.

Leiner described a dermatitis under the title of erythroderma desquamativa or universal dermatitis of children of the breast. In some respects it resembles Ritter's disease while in others that of seborrheic dermatitis, and should never be confused with eczema. In the early stages, the skin becomes intensely red and covered with grayish white scales, which may become lustrous and easily detached in large areas as in scarlet fever, or they may be fine and branny. The eruption is usually diffuse over the trunk, but occurs in areas on the hands and feet. The scalp and eyebrows are covered with yellow crusts and scales. The nails are dystrophic, the nail bed frequently hyperkeratotic. The glands are swollen, but never break down. The general condition of the infant is usually poor; diarrhea is very common. In fatal cases, the intestinal disorder increases and the cutaneous manifestations become exaggerated. The skin becomes dry, parchment-like, particularly about the mouth.

In the treatment of any type of eczema there are certain underlying principles which should be followed. All sources of local irritation should be removed before topical applications are considered. The child should be kept out of the sun, wind and overheated rooms. During the winter months, the child's room should be heated and the windows open. The clothing should not be coarse nor irritating, and the child should not be covered too warmly. Soap and water should not be used on the eczematized areas. Olive oil, almond oil, cottonseed oil or cold cream may be used for cleansing purposes.

Diapers should be changed as soon as possible after being soiled. They should

be carefully washed with a mild soap, and thoroughly rinsed in a four per cent boric acid solution. Rubber pants should never be worn over the diapers by a child with an eczematous tendency. In some cases, hospitalization is desirable, provided the child can be isolated, as they are very susceptible to the intercurrent infections. Every infant with a severe eczema should be looked upon as a sick child, and should be put to bed and kept there until the eruption subsides. The physician should see him often and should pay as much attention to the whole situation as he would to one which is more dangerous to health.

The treatment of infantile eczema may be conveniently divided into local and internal. Local treatment alone will not cure most children with eczema. It must be combined with dietary, allergic and other procedures. Local treatment requires a knowledge of the reaction of different types of inflamed skins to various remedies. Local medication should be mild at first and should not be frequently changed in stubborn cases. A small number of remedies carefully handled will cure most patients.

In the case of acute vesicular eczema, if there is an acute inflammatory reaction with edema and oozing, we use moist dressings of a saturated solution of boric acid, or a one-half of one per cent solution of aluminum subacetate. These dressings should be changed three times a day, and these applications should be used for one or two days until the acute inflammatory reaction disappears. If there is an acute inflammatory reaction with bright redness, and no edema or oozing, a two per cent zinc oxide, calamine or a zinc oxide tragacanth lotion is applied.

After the preliminary treatment has been carried out, pastes and ointments are applied, such as follows:

- | | |
|---------------------------|----------|
| 1. Crude coal tar | 2 to 1.5 |
| Zinc Oxide | 2.0 |
| P. Amyli | 15.0 |
| Petrolat alba qs. ad | 30.0 |
| Sig. apply locally B.I.D. | |
| 2. Zinc oxide | 15.0 |
| Pulv. Amyli | 25.0 |
| Pix. Liq | .6 |
| Phenol | .6 |
| Petrolat | 32.0 |
| Sig. apply locally B.I.D. | |
| 3. Nafthalan | 2-4. |
| Zinc oxide | 8.0 |
| P. Amyli | 8.0 |
| Petrolat | 30.0 |
| Apply locally B.I.D. | |

These ointments are removed twice daily with olive oil and are never used under a bandage. These same preparations may be used in the subacute and chronic stages. Small isolated patches of eczema may be painted with undiluted crude coal tar.

When the face and scalp are covered with thick crusts, olive oil or cottonseed oil packs are applied for six to 12 hours and then the ointments 1, 2 or 3 are applied, except that on the scalp we use a 1 to 3 per cent sulphur in petrolatum ointment.

In eczema with a superimposed impetigo, the crusts are removed with boric acid compresses followed by the application of an ointment of one per cent ammoniated or yellow oxide of mercury in Lassar's paste. If coryza, otitis media, scabies should be the underlying cause, these should be eliminated and the eczema will clear with a small amount of local treatment.

The treatment of dermatitis of the intertrigo type frequently gives trouble. Monila infections and lues must be excluded. The parts are cleansed thoroughly. The diapers should be washed thoroughly. No rubber pants should be worn. Moist compresses of aluminum acetate one-fourth to one-half per cent are of value. We have had very good success with an oily lotion consisting of equal parts of olive oil and milk of magnesia. Dusting powders consisting of equal parts of purified talc, cornstarch, zinc oxide, and a small quantity of camphor are very soothing.

The roentgen ray has proved a valuable adjunct in the treatment of infantile eczema. Often when ointments, lotions and dietetic regulations have failed, a few short exposures have exerted a marked beneficial influence in our hands. Very small doses are given because of the necessity at times to irradiate large surfaces. Again, it is unsafe to administer large doses of x-ray to infants and children. We never give more than one-half skin unit which is equivalent to 175 R units a month. The exposures were given at weekly intervals in subfractional doses. Practically all of our cases improved although recurrences do occur. Some observers report success in irradiation of the thymus; we have had no experience.

The results in light therapy have not been very encouraging in our hands. We have noted not only very little improvement, but rather increased irritation. It should never

be used during the acute stage. It may be of some value in irradiating the entire body to stimulate the general body economy.

Diet is a very important factor in the treatment of infantile eczema. We are cognizant of the fact that, as in the etiology of eczema, the feeding of children is subject to a wide divergence of opinion, and should be left to the pediatrician.

The ideal treatment in eczema might be the removal of milk from the diet, but on account of the age of the child this is usually impossible. However, the milk can be modified if the child is artificially fed. Boiling the milk for thirty minutes is often of value.

If the child is breast fed, the mother's diet should be carefully studied, and the time and duration of nursing regulated. Parents frequently inquire whether the child should be weaned. In our opinion weaning should be the last resort.

Drugs play a very small role in the treatment of eczema. Children with eczema are abnormal, usually below par and subject to

many types of intercurrent infections, anemia, malnutrition. For this reason, we prescribe cod liver oil and the syrups of the iodide of iron. In acidosis, alkalis and calcium lactate are of benefit. Children from two to twelve years of age may have hypothyroidism and thyroid extract is of value.

Obstinate cases of eczema which do not respond to any type of treatment may derive benefit from auto-hemotherapy and foreign protein injections.

The subject of eczema is a very comprehensive one. We have made an effort to briefly review its etiology, diagnosis and treatment, and to show that a proper evaluation of these facts may aid in determining the cause, and also formulate more adequate methods of treatment.

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SKIN DISEASES IN INDUSTRY*

ARTHUR E. SCHILLER, M.D.†
DETROIT, MICHIGAN

Among the many problems that a depression world has presented to its weary people, the one of maintaining a state of physical well-being sufficient to hold a precious income-producing job seems to be paramount. It offers a problem both to the individual and to his physician and nowhere is the anxiety more manifest than in the industrial world. But long before this period of industrial unrest, industrial physicians, factory executives, and dermatologists showed an intense interest in the subject of skin diseases of an industrial character. If, as Overton states, "The workmen's compensation act returns for 1927 showed that, for factories more certificates of disablement were issued for skin affections than for any other compensable condition," then that interest can readily be appreciated. I doubt, however, that the man in general practice has given the attention and thought to this subject that his position on the firing line requires. It is to bring to his attention the importance of a closer study of industrial dermatitis that this review is attempted.

Perhaps a brief review of the literature may give you an opportunity to follow this subject more closely. In 1700, Ramazzini, the father of industrial hygiene, described the dermatoses of washwomen, bakers, farmers, and others, and, in 1775, Percival Potts' work on chimney-sweep cancer appeared. In the German literature Cless mentioned the subject in 1842, and in 1896 C. J. White, in a paper entitled "Notes on Dermatitis Venenata," called attention to the need for investigating all cases of this type "especially in the arts." At the beginning of the twentieth century, interest began to be widespread and, in the last twenty years, there have been a large number of articles of increasing importance by R. Prosser White, O'Donovan Gardiner, Ull-

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†Dr. Schiller is a graduate of Detroit College of Medicine and Surgery, 1914. He pursued post-graduate work in dermatology at the University of Michigan; is a Diplomate of the American Board of Dermatology and Syphilology, 1935, and has been Attending Dermatologist, The Grace Hospital, since 1925. His practice is limited to dermatology and syphilology.

mann, Oppenheim and Rille, Pusey, Blaine, Schamberg, Fordyce, Cole, Oliver, Foerster, and others.

Incidence

According to Knowles, industrial dermatoses constitute one-sixth of the total number of diseases of the skin. Hazen's opinion is that they constitute one-fifth. Oppenheim gives the number as two-ninths and Prosser White as one-fourth, Fordyce as one-fiftieth, Guy Lane as one-tenth. C. J. White recorded 120 trades and occupations as productive of skin disorders. It is observed from the above statistics that the incidence varies with the location of the report, the reporting physician, and the type of cases seen, and the percentage of cases is probably larger than is generally realized.

Gardiner, in his interesting survey of "Occupational Dermatitis," from his department in 1919, of 1,194 cases, stated that 68 per cent of all dermatitis or eczema cases were due to occupations, and presented the following statistics:

<i>Occupations</i>	<i>Cases</i>
Housewives	254
General laborers	59
Chemical workers	25
Rubber workers	24
Iron and steel workers.....	36
Colliery workers	32
Mill workers	26
Bakers	16
Printers	12
Wood workers	13
Tailors	8
Painters and French polishers.....	14
Chocolate workers	6
Munition workers	4
Agricultural workers	14
Upholsterers	3
Leather workers	6
Linoleum	4
Actors	3
Butchers	12
General	51

Sites of Eruption

The following statistics have been carefully drawn up, noted and analyzed, because, although one was familiar with the common areas affected, the comparative frequency of each area and the line of spread remained matters for consideration.

<i>Sites</i>	<i>Cases</i>	<i>Per cent</i>
Wide-spread	71	11.4
Arm, excluding the hand.....	273	44
Arms alone affected.....	90	14.4
Arms indefinitely (indefinitely used to denote all aspects).....	185	29.7
accompanied (another part or parts involved)	135	21.5
unaccompanied	50	8

<i>Sites</i>	<i>Cases</i>	<i>Per cent</i>
Arms (extensor aspect).....	56	9
accompanied	26	4.1
unaccompanied	30	5
(flexor aspect)	32	5.1
accompanied	21	3.3
unaccompanied	10	1.6
Lower extremity	79	9.8
Legs alone affected.....	22	3.5
Legs indefinitely	62	9.9
accompanied	45	7.2
unaccompanied	17	2.7
Legs (extensor aspect).....	8	1.2
accompanied	7	1.1
unaccompanied	1	.1
(flexor aspect)	9	1.4
accompanied	5	.8
unaccompanied	4	.6
Hands	370	59.5
Hands alone affected.....	245	39.4
Hands indefinitely	196	31.5
accompanied	70	11.1
unaccompanied	126	20.2
Hands (extensor aspect).....	120	20
accompanied	48	7.7
unaccompanied	72	11.5
(flexor aspect)	54	8.6
accompanied	7	1.1
unaccompanied	48	7.7
Face and neck.....	146	23.5
accompanied	113	18.1
unaccompanied	33	5.3
Feet	8	1.2
accompanied	4	.6
unaccompanied	4	.6

A consideration of the statistics enclosed shows, as naturally would be expected, a preponderance on the hands, in 370 cases; the arms come next in 273 cases, then the face and neck in 146 cases, and the lower extremities in seventy-nine cases.

The hands are more involved in work, and these, with the arms and face, are the most exposed, being generally devoid of covering.

A further consideration of the numbers involving the hands reveals the fact that of the 370 cases where that part of the body was affected, in 245 it had spread no further. Provided with thickened epidermis in the palms, it is readily understood why 120 cases affect the extensor aspects and only fifty-four the flexor aspects. When this occurs it is generally observed that the spread is mostly between and round the fingers (the area involved most commonly in cheiro-pompholyx) and that the palms remain completely free.

When the arms show manifestations of external irritation, the proportion of cases remaining localized is about the same as in the hands, and again while the extensor aspect is most commonly affected, the proportion of fifty-six to thirty-two of the

flexor aspect, as in the hands, the great majority, 185, spread to both aspects.

On the legs, where the frequency is less, the proportions are almost identical.

Age Incidence

Ages	Cases	Per cent
Under 20.....	86.....	13.8
20 to 30.....	180.....	28.9
30 to 40.....	127.....	20.4
40 to 60.....	187.....	30.1
60 to 70.....	34.....	5.6
Over 70.....	7.....	1.1

Duration of the Attack

The duration of the attack is sometimes very vaguely given, but details, so far as they could be obtained, are recorded in 594 cases:

Duration	Cases	Per cent
A week and under.....	64.....	10.7
1 to 4 weeks.....	150.....	25.2
1 to 2 months.....	101.....	17
2 to 6 months.....	113.....	19
6 months to 1 year.....	60.....	10.1
1 to 2 years.....	47.....	7.9
2 years or more.....	59.....	9.9

Preceding skin condition	Cases	Per cent
Seborrhea	175.....	28.1
Hyperidrosis	168.....	27
Pediculosis	17.....	2.7
Syphilis	5.....	.8
Varicosity	3.....	.4
Xeroderma	8.....	1.2
Psoriasis	1.....	.1
Chilblains	3.....	.4
Scabies	4.....	.6
Acne	3.....	.4
Urticaria	3.....	.4
Furunculosis	1.....	.1
Impetigo	1.....	.1
Senile	2.....	.3
Septic sore.....	1.....	.1

Preceding Skin Condition

Regarding preceding skin conditions 63.6 per cent were, on examination, found to have definite manifestations of these.

Seborrhea takes precedence in 28 per cent of the total cases, and its significance can scarcely be over-stated. The name is an unfortunate one, but it is a recognized entity and implies a faulty excretion of the natural oil of the skin. The sebum in a healthy skin is neither too fluid nor too dry and renders the skin pliable, while also protecting it from irritation. Experiment has revealed the fact that the horny layer is especially soluble in alkali and sebum naturally will counteract its influence. If the sebum is too thick it will accumulate in parts and other parts will be devoid of it. If too thin it probably does not provide a proper lubrication. There also may be some chemical change in the sebum of an un-

healthy skin, which renders it a less satisfactory lubricant to the epithelium. Particularly on the hair does one notice the effect of seborrhea, where the lusterless appearance and the lack of resiliency is apparent to the most casual observer. On the rest of the skin it will undoubtedly have a similar effect, although on the finer lanugo hairs it is not so noticeable. While present in most parts of the body the sebaceous and sweat glands in certain areas are more numerous or larger. On the face and neck they are both numerous and large, and there we find 146 cases.

Excessive sweating is noted in 168 cases (27 per cent). This, in many instances, is associated with some debility, while in others it is the result of working with hot materials. In any event the effect is to produce a sodden epidermis, and a sodden epidermis is more liable to break down when exposed to irritation. A familiar example of this may be seen in the person who rows in a boat with dry hands and suffers little inconvenience except cornification after frequent exercise, whilst another who, perhaps, has been fishing and got his hands moist will, frequently, be found to develop blisters after rowing.

Gardiner summarizes his findings as follows:

1. There are definite occupations which are liable to cause damage to the skin.
2. Some irritants act mechanically and others act chemically.
3. Alterations in materials used may cause the development of a dermatitis in the case of a worker employed for many years at the same occupation.
4. That a previous dermatitis may subsequently render a worker susceptible to an irritant which he or she could previously resist.
5. While it is characteristic of occupation dermatitis that it occurs on the parts exposed to the irritant, the majority of cases occur on the hands, next in order of frequency arms, face, neck and lower extremities.
6. That spread may be from the irritant itself or may be due to secondary infection.
7. That the attacks may commence in youth, but, if not, are more common over forty.
8. That recurrences are very common. The recurrent type is an exceedingly common one.
9. That in the case of a powerful irritant dermatitis may ensue within a day or two, that where there is hyperidrosis it is likely to appear within a few weeks; that where there is seborrhea there is a more gradual breakdown which may be months or years, that a large number occur after many years, and that the largest number occur after many years due to various causes.
10. That illness, the climacteric and old age are important points in the causation of an outbreak.
11. That local injury is also an important factor.

12. That the condition of the skin should be a matter of close examination in all applicants for occupations which incur liability to dermatitis.

An opportunity to check cases in the tack industry in Boston was afforded the author and the following report may be of interest:

<i>Age Incidence</i>	<i>Duration of Disease</i>	<i>Worked at same occupation</i>
17 yrs.—66 yrs. Average 41 yrs.	1 mo.—12 yrs. Average 5 yrs.	6 mos.—33 yrs. Average 13 yrs.
<i>Incidence of Parasitic Involvement by Culture</i>		<i>Positive Skin Tests to Lime</i>
Feet	65%	80%
Hands	12%	
<i>Areas Involved</i>		<i>Types of Lesions</i>
Hands	65%	Vesicles
Forearms	35%	Pustules
Fingers	54%	Comedones
Wrists	24%	Cracking
Neck	10%	Lichenification
Feet	5%	Desquamation
Face	10%	
Elbows	20%	
Legs	5%	

Etiology

Industrial dermatitis may be produced by irritation of any origin. Prosser White, in a rather lengthy chapter, summarizes the etiology under:

1. Mechanical, or physical.
2. Detergents and keratin solvents.
3. Desiccators and hygroscopic agents.
4. Electrolytic agents.
5. Protein precipitants.
6. Oxidizers.
7. Reducers.
8. Toxic agents.
9. Keratogenic.
10. Biotic agents.

It seems to me that this etiologic classification is somewhat too cumbersome for everyday use and Lane's idea in classifying the conditions as an industrial dermatitis, with the probable cause following it, is much more simple. Overton feels that "among the causative agents of dermatitis alkalies have held first place for the last three years." This bears out the acknowledged fact that the horn-cells of the epidermis are far more tolerant of acids, and in stronger solutions, than of alkalies. Alkalies have a macerating action on the keratin of the skin, and the horn-cells, the function of which is to protect the more delicate structures beneath them, become disorganized, separate, and thus allow the irritant to penetrate the first line of defense. Other important causes of industrial dermatitis

are de-greasing agents, such as turpentine and substitutes, paraffin, petrol and naphtha. Sugar was held responsible for 5 to 7 per cent of the cases for the last four years, while dough, suggested as the cause of baker's dermatitis, contributed from 4 to 11 per cent of the voluntarily reported cases for this period.

Dyes, particularly the sulphur and basic, seem to produce about the same number of cases as does sugar, but there are no figures to compare the respective personnel on contact with these irritants. "Accelerators"—substances introduced into rubber-mixings to shorten the time required for vulcanization, e.g. a compound of formaldehyde and para-aminodimethyl-anilin and hexamethyl tetramine, to quote two—are responsible for folliculitis in the presence of heat and friction. Mixers, who may handle many accelerators without special precautions, seem comparatively free; heat and friction are less apparent in this process. Phosphoric acid, in the sweat, with hexamethyl tetramine, is said to form acetaldehyde, which in turn breaks down in the presence of oxygen to produce formic acid.

De-greasing agents, such as alkalis, turpentine, paraffin, etc., claim their victims, but over-lubrication of the skin by oil, together with other factors, annually swells the number of cases. The other factors here are (1) minute particles of filings, i.e. in engineering shops, mixed with the oil and causing injury, micro- or macroscopic in degree, followed by (2) infections; (3) absence of cleanliness of person and clothing, in the instance of a sebaceously active type of person, the male adolescent, who predominates in engineering shops.

On the subject of recurrent attacks of dermatitis, wood-workers seem to be those for whom a return to the original occupation after an attack of dermatitis is most likely to prove unfortunate, whilst this risk to dyers and bleachers, bakers, with pastry-cooks, rubber workers (generally those exposed to "accelerators"), chemical and sugar confectionery workers, in this order, seems to be considerable. It is interesting to note, however, that the industries in which recurrent attacks are frequent coincide with those which would be held responsible on the grounds of other evidence.

The dyeing industry, together with calico

bleaching and printing, is well known to be responsible for many cases of trade dermatitis annually. What seemed likely to be the cause of so much dermatitis was the almost universal use of a mixture of bleaching powder and soda ash to remove color staining from the skin. This "chemie" as it is called, might have been left on the skin after it had achieved its decolorizing object. It is worthy of emphasis that an enormous number of cases of trade dermatitis are caused annually, not by the substances encountered at work, but by their removal by methods harmful to the skin.

Painters acquire skin-disease, not from their paints, but from the use of turpentine or its substitutes. Alkalies in some form or other are always appearing as cleansers. Paraffin to remove grease from the skin takes its toll, together with other de-greasing agents, such as turpentine, petrol, naphtha, acetone and substitutes, methylated spirit, et cetera.

Dyson discusses those cases which are indistinguishable from cases of dermatitis commonly described as eczema. Such cases are commonly seen in bleachers, dye workers, chemical workers, plasterers, rubber workers, french-polishers and hairdressers. He recognizes no difference between an eczematous occupational dermatitis and eczema. Any condition which predisposes to eczema will also predispose to occupational dermatitis. Hyperhydrosis is a common factor in its production and xerodermatous and ichthyotic subjects are more susceptible than others. Idiosyncrasy is mentioned; and the author discusses the subject of sensitization and states that prolonged or repeated attacks of dermatitis may produce a general sensitization which has many of the characters of any "anaphylactic state." Seborrhea and secondary pyogenic infections, in his experience, favor the development of a general sensitization, although it may develop without the presence of any of these factors.

Predisposing Causes

Pusey feel that "the predisposing causes are the factors in the personal equation which make the skin of varying resistance in different individuals, and these factors are many:

The protection afforded by the skin varies greatly in different individuals and under different conditions. The youthful

skin is more delicate than that of the adult. The skin also has senile changes, which may occur prematurely without reference to other senile changes, that lower its resistance. The woman's skin approximates the youthful skin and is more sensitive than the man's skin.

Local conditions in the skin, as for example, vascular disturbances, may weaken its resistance; the skin in which the circulation is poor is of increased vulnerability. The skin which normally sweats profusely is more resistant to some external irritating influences than the dryer skin, but is more vulnerable to other external injurious influences. Previous injuries to the skin, as, for example, many reactions from external irritants, may permanently damage its protective quality. The greasy skin of the negro, Mexican, and the Indian is tough and can endure exposure to many insults that damage the white skin. Individuals show even greater variation. At one extreme we have the normally tough skin, the resistance of which is remarkable; at the other, we find the individual whose skin is so sensitive that blisters and ulcers are produced by slight blows and pressures, which are harmless to the normal individual.

We also have variable personal susceptibility to irritants. What is one's skin poison may be harmless to another. Everyone knows that poison ivy, for example, is not poison at all to many persons, while in others it produces an inflammation of the skin of extremest severity. We see manifestations of this personal susceptibility to particular irritants constantly in industrial dermatoses. Often, after repeated exposure, the skin will acquire resistance to an irritant. Unfortunately, also, it may become sensitized after repeated exposure, so that we not infrequently see persons suffering from inflammation of the skin from irritants which formerly were harmless to them. These factors of varying susceptibility come constantly into play in industrial dermatoses; and they must be borne in mind as an essential part of the problem whenever we are considering the exciting causes of such conditions."

The exciting factors of industrial skin diseases may be included in the following classes: (1) heat; (2) cold; (3) weather; (4) posture, friction, pressure; (5) para-

sites; (6) infections; (7) mechanical and chemical irritants.

Foerster states that general predisposing factors include the sensitization caused by allergic or anaphylactic conditions caused by foods and other agents, toxins, focal infections and constitutional disorders and unfavorable and unhygienic conditions in the home and at work.

Under exciting causes he groups:

1. Physical injuries resulting from mechanical, thermal and actinic agencies.
2. Injuries of chemical origin.
3. Infections and parasitic agents.

I would refer you to his excellent article in its entirety, for a complete study of this subject.

Diagnosis of Industrial Dermatitis

The examination of a fairly large number of cases would seem to indicate that there is nothing particularly characteristic about the inflammatory process produced by the irritants of industry to differentiate them from irritations of a different source, for in industry all the basic characteristics of an inflammatory process, in addition to whatever secondary involvement may have been added, are readily found. Again, it is extremely possible that a variety of manifestations may be produced by a single irritant and that a number of varied irritants produce the same lesion. As may be seen from the various charts shown, lesions may develop at varying times after contact—in the one instance lesions developing at once, and, in the extreme, many years following constant irritation. The areas involved would seem to be those in immediate contact with the toxic materials, the hands, extensor surface of the extremities, the face, and the neck, being the areas most frequently involved. Eruption may vary from a morbiliform to an erysipeloid eruption. Papules, vesicles, pustules, and all the consecutive lesions may be present either at once or in succession, and it is only by a process of careful elimination study of the history, patch tests, and other careful measures that definite diagnosis of industrial dermatitis may be arrived at. However, there is usually a great deal of presumptive evidence and this must form the working basis for an attempt at a diagnosis.

Prophylaxis and Treatment

The most practicable way of handling the problem in certain industries is by the selection of workers who can endure, without damage to the skin, the amount of external irritants which are necessarily involved in the occupation. Some men cannot work at all where others can work without damage. My impression is that nothing is gained by trying to keep these susceptible men at work which produces skin trouble. The best thing is for such men to shift their occupation, if possible, when the inability to endure the irritants involved is discovered. When old workers acquire a susceptibility, shifting of occupation may cause heavy sacrifices which they desire to escape. In such cases, unusual precautions and medical care may enable them to continue. But it is usually only at the expense of discomfort and periods of disability.

The prophylactic measures suggested by McConnell seem to me so important that I am giving them in full.

1. On entering the plant each workman should wash the hands and forearms thoroughly with warm water, using a sawdust and liquid-soap preparation to assist the cleansing process.
2. After drying the skin with an individual towel he should apply either lanolin alone or lanolin and castor oil, and rub it well into the skin.
3. A foreman should inspect each worker as he enters the workshop, to insure the efficient carrying out of the foregoing.
4. At noon, before eating luncheon, the workmen should wash the hands and forearms with warm water and soap.
5. On returning to work they should repeat the morning schedule of washing and applying the lanolin preparation.
6. At the end of the workday they should wash the hands and arms with warm water and soap and dry them. No emollients should be applied unless actual abrasions are present, in which event proper dressings should be applied. The lesions on the thighs can best be prevented by wearing aprons impenetrable to oils.

The treatment of industrial dermatoses is largely a matter of adequate prophylaxis and appropriate immediate treatment. The large sums spent on compensation for disability have emphasized the hazards of disease or injury, more particularly in certain industries, and have forced the introduction of protective devices and prophylactic measures. Prophylaxis necessitates improved working conditions, medical inspection and education of the employee in personal hygiene. The modern factory, with its adequate provision for ample working space,

sunlight, fresh air, proper washing and toilet facilities and short hours is a boon to the workman, whereas unhygienic working conditions are often directly responsible for a high incidence of industrial disease. The replacement of methods of work which necessitated direct contact of the hands with irritant materials by mechanical methods of manipulation and manufacture, brought on by large scale production, is an advance in prophylaxis.

In some industries a frequent thorough cleansing with soap and water is advised, and in some factories it is made compulsory. Bathing facilities are provided, and bathing is encouraged by including it in the working schedule. The frequent changing of dust-laden and oil-soaked clothing is as important as washing. In particularly hazardous work, the temporary shifting of workmen to other jobs should be a routine measure.

Page and Bushnell considered the most effective prevention of dermatitis and folliculitis from oil and grease to be cleanliness on the part of the worker and the avoidance of a promiscuous interchange of waste and rags used for wiping the hands. They consider that daily filtration and sterilization of used oil are helpful, the addition of germicides useless and the removal of

workers with skin diseases the most important factor in prophylaxis.

Routine medical inspection of applicants and employees should permit, to some extent, the elimination of those physically unfit for particular types of work, and the building up of an immune or resistant personnel, and should result in the early detection and treatment of predisposing and exciting factors. Persons with hyperidrosis, seborrhea, and xeroderma, and those with active cutaneous disease or history of such disease should be eliminated from industries in which the liability to dermatoses is high. Evidence of impaired health, as an indication of predisposition to injury or disease, should receive attention, and workers showing intolerance to work or materials should be removed from such work at the first onset of symptoms.

In all industries, compulsory immediate notification concerning minor injuries and eruptions, by permitting appropriate first aid treatment, will do much toward the elimination of disabling infections and dermatoses. Roller towels and common drinking cups should be prohibited. Bland protective ointments, gloves and other protective measures during work, and a germicidal and neutralizing solution after work, should be employed as a routine when their value has been proved.

THE VALUE OF THE POTTER TYPE OF INTERNAL PODALIC VERSION IN THE MANAGEMENT OF PERSISTENT POSTERIOR OCCIPUT CASES*

M. M. JONES, M.D.†
PONTIAC, MICHIGAN

To anyone doing obstetrics, the posterior occiput case has always been sort of a "bug-bear." There are several complications in the obstetrical field, but I think these posterior occiput cases cause the obstetrician many anxious moments. It is a condition fraught with great anxiety, a real danger to fetus and mother, and one requiring considerable judgment and skill in its management. We often wonder *why*, in an apparently normal case, the patient has a prolonged and tiresome labor.

The persistent posterior occiput case is not a rare one when you recall that the most common cephalic presentation is the left occipito-anterior, and second in frequency

comes the right occipito-posterior. In normal labor nature provides that the fetal head shall present its smallest diameter (the sub-occipito-bregmatic). The head enters the pelvis with the occiput obliquely anterior and as labor progresses, the occiput gradually rotates forward until during the

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†Dr. Morrell M. Jones graduated from the Detroit College of Medicine and Surgery in 1915. He pursued post-graduate work at Washington University, St. Louis; New York Post Graduate School, and with Dr. Irving W. Potter of Buffalo. He is Attendant Obstetrician and Gynecologist at St. Joseph's Mercy Hospital and Pontiac General Hospital. His practice is limited to Obstetrics and Gynecology.

stage of expulsion it is found directly under the pubic arch. It is in this way the smallest diameter is made to present itself at the superior strait and at the outlet. All cases in which this diameter does not so present itself, are theoretically abnormal—thus leading to delay in labor.

After knowing now that the longer diameter of the fetal head presents itself at the superior strait and realizing the mechanism of labor in these cases with their undue extension, the occiput having to rotate three-eighths of a circle instead of one-eighth in your left occipito-anterior cases, it is quite easy to understand why these labors are so long and tedious and associated with maternal and uterine exhaustion and some times obstetrical shock. It is a mistake to suppose that every obstetrical case needs active treatment or operative interference because the efforts of nature sometimes bring about a very happy termination and nothing could be more ill advised or mischievous.

All of these cephalic mal-presentations are attended by undue extension with a resulting increase in the diameter of engagement. Non-recognition of this mal-presentation is attended by disastrous consequences. Realizing that the right occipito-posterior occurs in 30 per cent of the cases, it is apparent that we all will have ample opportunity to perfect our selves in the diagnosis of this position.

Now we come to decide which method of delivery is safest for mother and child. Only a very small majority of fetuses in posterior-occipito position will rotate spontaneously. Delivery of course, of the fetus in the persistent posterior position is absolutely unnecessary and is attended by danger to the child. In my work my sheet anchor in these cases is internal podalic version, Potter technique.

Before briefly describing the advantages of Potter's technic, I wish to state the importance of estimating the degree of risk for an obstetrical procedure. To estimate the operative risk is more difficult in obstetrics than it is in gynecology because there are two risks—mother and child. If you disregard the latter, the maternal side may be lessened, but the main object of intelligent operative intervention is to save both mother and child. From the early

months of pregnancy, each obstetrical patient presents a problem in risks all of its own. Will this particular pelvis permit the passage of the ordinary sized child? If one must interfere, what are the maternal and fetal dangers? Is the operative risk increased by delay? Is it worth while to increase the maternal risk for the sake of the child who may not survive long?

Now briefly, the technic of Potter is as follows: The woman is placed on the table and anesthetized to the stage of surgical anesthesia, using chloroform as the anesthetic agent. Of course when using chloroform, it requires the services of a capable, trained anesthetist who knows chloroform and how to use it. It is superior to other anesthetic agents in its production of relaxation. Too many obstetricians have been seriously handicapped in their performance of version because of a timid anesthetist. If one attempts version without adequate anesthesia relaxation, he is sure to run into serious trouble, with imminent danger of rupturing the uterus. I know of no other anesthetic agent that gives such satisfactory relaxation as chloroform, in the hands of a skilled anesthetist. The vagina and soft parts are thoroughly "ironed out." It matters not whether the case be a primipara or a multipara, the procedure can be just as satisfactory and completely done. Now the cervix, which must always be obliterated or soft and easily dilatable before version is ever attempted, is gently stretched with the fingers. Then the outstretched hand and the arm is pushed high up between the uterine wall and the membranes, and the latter are gently separated all over by sweeping the fingers of the hand up and down and around, being careful not to work too near the placenta.

The hand is now free in the uterine cavity, the position of the child is made out and its probable size estimated, the position of the cord ascertained and the diameters of the pelvis approximated. Both feet are now grasped between the first and middle fingers of the left hand—the left hand is always used for the version no matter what position the child is in. According to the position of the child, the toes will either look to the palm of the hand of the operator or away from it. If the feet are locked at the fundus, gently unlock them and seize one foot bringing it down; then reach up

for the second foot, grasping both feet between the fingers.

Now the extraction and both feet are brought down to the vulva and delivered together, the child's body having rotated with this onward movement. Slight pressure is sometimes necessary at this stage to lift the head out of either iliac fossa with the right hand. Continued gentle traction is made until the knees are exposed, at which time the version is complete. Now rest for a few moments and then gently pull upon the anterior foot and lower leg until the pelvis of the child comes into view, when it will be seen that the pelvis is rotated in the opposite direction and is eventually delivered in that direction. This rotation is brought about by the traction on the lower leg and the baby comes into the world with its back transverse to the pelvic outlet. No attention is paid to the cord at this time if it is free and loose, which it usually is, but if it is tight and short a clamp is placed at the umbilicus and the cord is cut, if it cannot otherwise be loosened.

We now proceed with the delivery of the scapulæ which must always be thoroughly exposed and well out in view before any attempt is made to deliver the shoulders. Then the fingers and the hand of the operator are pushed well above the shoulder between the lips of the vulva and the anterior shoulder is delivered with the upper arm. The operator now grasps the baby with his hand over the exposed shoulder and chest and rotates the child's body so that the posterior arm comes anterior and is delivered as such. Both shoulders being now delivered, the lower arms usually fall out themselves. If, however, they remain undelivered they can be gently lifted up across the chest of the child and drawn away from the perineum under the pubic arch. The older method of version brought the arm down as a posterior arm across the distended perineum, which was often the cause of the extensive tears consequent upon that method of podalic extraction.

The operator now determines whether there is any loop of the cord around the neck, and finding none he proceeds with the delivery, but if the cord be twisted once or twice or even three times around the neck this condition of the cord must, if possible, be relieved by loosening it, and if absolutely necessary, it must be clamped

and cut. However, usually the cord is free and no haste is necessary.

The fingers of the left hand are now inserted into the baby's mouth and with the right hand gentle pressure is made upon the occiput over the pubes to aid in the flexion of the baby's head and also to direct its passage through the pelvic canal. The jaw is not pulled upon, as a fracture might result.

Up to this point no pressure from the outside has been made in the delivery because such pressure over the head before delivery of the arms has a tendency to push the head down, which allows the arms to go up as well as extend the chin, complications which at all times must be avoided, and I am sure it is this pressure that makes the difficulties and dangers of the other methods of version.

By this time the baby's mouth is exposed and the mucus is milked out of the throat by the fingers gently stripping the front of the neck, when the baby will begin to breathe and often cry aloud. The head can be left in this position long enough to dilate thoroughly the perineum and vaginal structures as no haste is indicated and finally the nose is delivered, followed by the brow in an extremely flexed condition which is further assisted by lifting the body well forward and up from the perineum. The baby is now placed upon its right side on its mother's abdomen.

It is always my practice to clamp and cut the cord immediately as soon as the child is delivered.

In short the great advantages of Potter's technic are as follows:

1. High rupture of membranes.
2. Both feet brought down.
3. Better traction and better wedge.
4. Buttocks delivered in hollow of sacrum—with abdomen of baby to maternal bladder.
5. Prevents nuchal arms.
6. Pressure in axilla and rotating scapulæ under pubic arch almost makes shoulders and arms deliver themselves.
7. Crossing of the child's arms on its own chest before feet are brought down to the vulva.

I know numerous protests have been made against immediate repair, such as danger of infection, lochia, danger of pro-

longed anesthesia, hemorrhage and shock, and interference with future deliveries, but I believe it has its economic advantages, that it is obstetrically sound, and I am very much in favor of the physical advantages of gynoplastic repair.

Twelve years ago Potter's theory was practically without support, today a large number of practitioners are employing his technic and giving it their endorsement. When the time comes to record obstetrician's contributions to the science and practice of obstetrics, I am sure Potter will share the prominent place that he justly deserves, because in the face of criticism and condemnation, he had the courage of his convictions to carry on in the interest of the woman in labor. He does not advocate version for anyone who does not want to do it or is afraid to try it. I believe any one who has the proper ground work and is well trained in obstetrics can do a version equally as well as he can be trained to perform a cesarean or any other major operative procedure.

I firmly believe that any method that will tend to shorten that much dreaded second stage (that is, of course, if this method is compatible with safety for mother and child and if the attendant is especially dextrous and able) will do more than any other single influence to lessen the fear of childbirth now so universal among mothers and will result in a higher birth rate in that class of society which the well being of our state rests.

I think version is ideal in the management of these cases because the rapidity of convalescence is due to elimination of shock since they are not called upon to endure anguish of a long second stage. Many of our patients are in poor physical condition at the time of labor. Eliminate fear of pain because it throws off the equilibrium of the sympathetic innervation of the uterus. The actual pain itself can over a long period of time and actually does cause post-partum shock. In all cases of labor there is a certain amount of shock, even if it be very slight, and if we can in a large manner eliminate pain by bringing about an early delivery, we conserve our patient's strength, making no drain upon her energy reserve. She recovers quickly, and is more willing to increase the size of her family. There are variable limits which Nature

sets in woman as to their ability to endure pain, wakefulness, mental and nervous strain which they are called upon to go through in these persistent posterior occiput cases. The institution of the proper kind of management of these cases will prevent most cases of neurasthenia, exhaustion, psychosis, and in severe cases sometimes puerperal insanity. It is this psychic shock which influences the woman's whole life and may prevent further child-bearing and marital unhappiness, often ending in divorce. Women are used up in bearing children, and many husbands do not like an ailing, unresponsive wife.

The so-called "test of labor" has been abused. Jaggard introduced the term "watchful expectancy," but he also sharply distinguishes between "Masterly Inactivity" and "supine waiting" policy, but in most cases, unfortunately too, the "test of labor" disintegrated into a "Hopeful Procrastination." There is an immense army of women who are suffering from sub-invalidism who say that they have never felt well since their first baby. The Parturient woman, probably cared for during labor, will put obstetrics as a richly scientific member of the science and art of medicine. Letting the woman pound the fetal head on the pelvic floor hour after hour, as Dr. DeLee said, is mid-wifery by omission. And so, in these posterior positions with the chance of injuries from below brought about by long continuance of labor with the constant driving force being brought to bear from above, you lessen trauma of the mother's soft tissues, and the chance of injury to the child's head is also lessened by shortening the time that the head is compressed in the pelvis.

Persistent posterior occiput wrongly treated is one of the tragedies of obstetrics. Accurate diagnosis is the important factor in the proper management of this mal-position. In these cases there is so many times distinct evidence of fetal distress and this in turn so often associated with intracranial injury that it should be detected early with intervention as soon as conditions are favorable and not be delayed until irreparable damage and injury has been done to the fetal nervous system. Early recognition of this mal-presentation, correction of it early in the second stage of labor, with intelligent intervention rather than too much of this so-called "watchful expectancy" will

result in a less frequent occurrence of birth injuries.

A comparison of the methods has convinced me in a very positive way that the Potter technic of internal podalic version (in selected cases of posterior occiput) should be the method of choice, and in my hands has been most gratifying. I will say along this line that in these cases it is my plan to get my patient into the second stage with her physical powers as nearly intact as may be and with the least possible impairment of her nervous forces and to accomplish this end the judicious employment of some analgesic or opiate is often of very great value. These all serve to give the mother rest because there is no doubting that the greatly exhausted woman is more apt to become infected and is more likely to bleed.

As Strasman says, "No other day contains so many dangers to the life of a man as the day of his birth with which ends this contemplative life of peace within his mother's organism."

Conclusions

1. The technic of Potter in internal podalic version is far superior.
2. In selected posterior occiput cases, maternal and uterine exhaustion and sometimes obstetrical shock is avoided.
3. It has been proven safe for mother and child when operator is thoroughly familiar with Potter's technic.
4. The time is not far distant when the indications and performance of version will take its rightful place and be broadened in its application.

An obstetrician has a wonderful opportunity for doing good and alleviating suffering. The conduct of labor must meet the requirements of modern womanhood. The woman nowadays demands a safe labor, freedom from unnecessary pain, a reasonable length of labor. She also demands a healthy baby, free from the effects of traumatism during labor and delivery. We are all intensely interested in the woman in travail, that her anguish be lessened, her hour shortened and her joy made complete.

DOCTORS, DOCTORS AND DOCTORS

"The physician's entrance into the sick-room and his bedside deportment are a part of the art of medicine not generally understood. Some doctors come plunging into the chamber of the sick like a fireman about to extinguish a conflagration; they alarm the patient. Some come like a detective looking for a criminal, and give the patient cold creeps. Others enter stealthily like a cat stalking a bird, and are beside the patient and pounce upon the pulse before any one is aware; they fill the patient with a wierd sense of the chase. There is a class that come like purring doves, as though they would make love; they are thought nice by sentimental ladies. There are the doctors with the doleful faces, like the hired mourners who follow the catafalque; if the patient is bad they make him worse; if he is not they cause him to smile. A common lot enter like the monologue artist on the vaudeville stage and start a barrage of wise-cracks that entertain the nurse and amuse themselves, while the patient waits for business to begin. Then there is the radiant doctor who has studied how to impress himself upon others and fill the room with the effulgent aura of his personality; he impresses only the weak-minded. There is the pompous doctor of the school of hope, who comes with a strong expression and eyes beaming with glad tidings; he scares the demon of disease, and makes the patient fearful of the size of the doctor's bill. Some doctors enter in a casual way, apparently unconscious of the patient's presence, and talk about the weather or the fire, while the patient longs for succor. The egotistic kind first must tell how busy

they are and how little sleep they snatch between the rings of the telephone, how fast they have to drive to reach the outposts of disease, and how extraordinary are the cures they make; these give comfort to some, but mostly to themselves. There is the stumbling lout, whose bag upsets the vase of flowers, and who sets his bulky hulk upon the bed; the patient forgives much in the hope that the doctor is mighty also in healing power. The business-man physician whose manners smack of the marts of trade, smart, abrupt, and dapper, impresses the patient that he is attending a board meeting and wants the minutes read at once; the patient wishes he were more sympathetic. And then comes the doctor of mystery, all quiet and sedate, with soft voice, and furtive words, and sanctimonious manner; the patient, if of the susceptible type, thinks of wonders and of miracles.

"When the patients do well under their administrations, which in nine cases out of ten they do, each of these peculiarities becomes glorified into a healing virtue, and the doctor goes on cultivating his idiosyncrasy. The vast number of highly qualified physicians come under none of these classifications. Most physicians are just plain doctors. They may be tinctured with some of these traits, but not enough to matter. They exemplify good bedside manners. They possess urbanity; it is obvious that they are gentlemen; they do and say the thing that is fitting; they go about their business with dignity, directness, and despatch; it is clear that they have the matter in hand; and then, when they have finished, they say the few words that indicate sympathy and understanding, and quietly take their leave."—*The Doctor and the Public*, by J. P. WARBASSE; Paul B. Hoeber, Publisher.

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Editor

J. H. DEMPSTER, M.A., M.D.
 5761 Stanton Avenue, Detroit, Michigan

Business Manager

B. R. CORBUS, M.D.
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 313 Metz Building, Grand Rapids, Michigan

OCTOBER, 1935

EDITORIAL

THE PRESIDENT'S ADDRESS

The address of the president of the Michigan State Medical Society is a significant event each year. Greater latitude is permitted in the choice and treatment of the subject than is accorded the writer of strictly scientific papers. The president may survey his subject and from his observations forecast and recommend. Doctor Smith's address is a masterpiece of clear and precise English. Carlyle has drawn attention to the fact that man is an animal who looks before and after, and adds that he had better look around a little. The presidential address does this very thing.

It is particularly fitting that meeting in the oldest established town west of Montreal, Doctor Smith should take occasion to review the early history of Michigan, to picture to us the forest primeval and the determined efforts of rugged pioneers to subdue the virgin country to cultivation. First the lumbering industries, then agriculture, then the industrial age, Michigan has proved a sort of microcosm, since during the three hundred years of its settlement, it has passed from the period of the hunter through the pastoral to the most highly mechanized stage. Medicine is to a

large extent a reflection of the social conditions of the times. The first ministrations were by the priest; then came the doctor, or medicine man, with his more or less crude methods; then, with the advance of scientific discovery, greater refinements in the healing art, and finally with the industrial age came highly developed specialism.

Doctor Smith predicts that the future of medicine will be in the direction of prevention. We are accustomed to limit the word to the staying of infectious disease. Its greater scope, however, is in holding in check the degenerate changes that produce early senility or its equivalent.

The pioneer spirit is no longer required to subdue forests, to reduce land to cultivation, but to solve different if not more momentous problems of an economic and sociological nature, and here the doctor with his medical acumen may contribute leadership.

AFFAIRS IN CALIFORNIA

Under this heading appears a letter † from Dr. F. C. Warnshuis, former secretary of the Michigan State Medical Society. Dr. Warnshuis is now Secretary of the California Medical Association. In view of the fact that the California Medical Society has declared itself in favor of compulsory health insurance, Dr. Warnshuis' letter is of more than usual interest. Among the facts related are: California has about 11,500 licensed physicians, 1,500 osteopaths, 3,500 chiropractors as well as a considerable number of nondescripts. Throughout the state the ratio of doctors to population is 1:652; the metropolitan areas, 1:551. During 1933-34 seventy-five per cent of the practicing physicians earned less than \$5,000, and fifty per cent less than \$3,000. Of the 11,500 licensed physicians, only 6,000 are members of the California State Medical Association.

Since 1917, Dr. Warnshuis writes, some form of health insurance has been the subject of almost constant discussion among the laity. We have read the reprint mentioned in his letter which gives in detail the course taken by the council and house of delegates of the California State Medical Society. From it, as well as the letter, it is apparent that the medical profession is confronted with a situation that appears unique

†See page 639.

in this country. There seems little question but that the profession were justified in taking the lead, as they have and as the medical profession are entitled to do in any state.

Dr. Warnshuis mentions the movement to open up county hospitals, that is, tax supported hospitals, to all citizens requiring hospitalization. In one county 90 per cent, and in another 82 per cent, of residents requiring hospitalization had already enjoyed this privilege. If this means that the population without discrimination are allowed the privileges of county hospitals on the same basis as indigents, it does not require much imagination to predict the plight of the medical profession.

So far as we know in Michigan, county hospitals have been reserved entirely to indigents. Compulsory health insurance has not achieved any wide popularity here and it has certainly not been favored by the medical profession. We will watch with interest California's experience in what is a new venture on this side of the Atlantic.

THE "STATE"

So much has been written and so much has been talked about the "state" in connection with the idea of state medicine that it might be of interest to define the state or, better, to present the conception as proclaimed by two or three political economists. The idea in the minds of many is that the term applies to any one of the forty-eight political divisions of this country.

T. H. Green* defined the state as a body of persons recognized by each other as having rights and possessing certain institutions for the maintenance of those rights.

Harold Laski† expresses himself as follows: "By *state* I mean a society which is integrated by possessing a coercive authority legally supreme over any individual or group which is part of the society. An examination of any national society will always reveal within its boundaries not only individuals but also associations of men

grouped together to promote all kinds of objects, religious, economic, cultural, political, in which they are interested. Such a society is a state when the way of life to which both individuals and associations must conform is defined by a coercive authority binding upon them all."

A. G. Keller,‡ professor of the Science of Society, Yale University, comments on the difference between state and nation as follows: "The familiar form of regulative organization is the state. The terms 'nation' and 'state' are often confused. The nation is a group of people who speak the same language, have the same general type of institutions, and cherish a common fund of convictions, principles, and aims, in a word who have a common set of *mores*. A state, by contrast, is the regulative organization of a definite territory."

We see that the conception of state as here defined might include any governmental group from the smallest to the greatest coincident with the nation itself.

HOW TO ATTAIN GREATNESS

"The doctor was a great man in the community through a long lifetime. The old doctor has his safe full of promissory notes which he never tried to collect. When a poor man came to pay his bill, the doctor cut it in half."

This quotation is from a rural newspaper. We have all read similar tributes. How many of us would prize such immortality? Why a safe for promissory notes that were never presented for collection? Since the doctor was such an indifferent collector, it would be interesting to know how prompt he was in meeting his own financial obligations. What about the claims of his family? Were they of less concern to him than his patients? What about his mental equipment? Did he keep abreast with the latest achievements in medicine? Doubtless the present day physician would feel more at ease with his conscience if he strove to keep abreast of the times by post-graduate study, attendance upon medical meetings, by purchasing and reading the best medical literature in the form of books and medical journals. This cannot be done by keeping promissory notes locked in a safe beyond the date of maturity.

* Principles of Political Obligation, by T. H. Green.

† The State in Theory and Practice, page 8, by H. Laski, Professor of Political Economy, University of London.

‡ Man's Rough Road.

MEDICO - LEGAL DEPARTMENT

LEGAL CONSENT TO OPERATIONS

By CLAYTON C. PURDY, *Detroit, Michigan*

What constitutes legal consent to an operation?

This question has been passed on several times recently by our Michigan Supreme Court. All possible cases are not answered by these decisions, but they give us excellent ground-work as to what is required in this state. One of the most recent decisions in which this question is answered is that of *Rytkenon v. Lojano*, 269 Mich. 270, decided late in 1934. That was a suit against a physician for alleged malpractice with the added count that proper consent to the operation was not secured. The patient in that case was a man with an advanced case of tuberculosis. A rib resection was performed and the patient died soon after the operation. After the patient's death, the wife, as Administrator of the estate, instituted suit, claiming that proper consent had not been given to the operation. The Supreme Court of Michigan held in that case that where the husband is mentally capable of giving consent to an operation on himself, although he is very ill, it is not necessary to obtain the consent of the wife.

A more recent case decided by the Supreme Court of Michigan is that of *Zoski v. Gaines*, 271 Mich. 1. In that case the plaintiff, a normal boy of nine and one-half years, was taken by a school nurse to the City Physician on suspicion of infected tonsils. The City Physician sent him to a private hospital with a memorandum requesting the removal of his tonsils and adenoids. The boy was accompanied to the hospital by his fifteen-year old brother, and his tonsils were removed by the defendant in the case. The testimony in the case showed that the parents did not know of the operation until it had been performed and their testimony showed that they had repeatedly stated they did not want the child's tonsils removed. This, of course, was not known to the doctor who removed the tonsils as it was presumed by him that the parents were perfectly satisfied inasmuch as the City Physician had sent him for this operation.

The Court, after considering all of the facts involved in the case, held that the operation was unlawful because it was without the consent of the plaintiff's parents and constituted an assault upon plaintiff for which the defendant was liable. This case, insofar as we have been able to ascertain, is only the second case which has held that it is necessary to have the parents' consent to an operation on a minor child, although we believe it has been generally understood by the medical profession and the public that that is the law.

The Courts generally have held that a surgical operation is a technical battery, regardless of the success of the operation or the benefits that may accrue to the patient from it, where said operation is performed without the express or implied consent of the necessary party.

An interesting case which has definitely made this rule in Michigan is that of *Franklyn v. Peabody*, 249 Mich. 363, decided by the Supreme Court of Michigan in January, 1930. In that case, the plaintiff had a stiff finger resulting from an injury. She visited the Ford Hospital in the City of Detroit and was advised by Dr. Peabody, the defendant, that an operation would be beneficial. The day of the operation, Dr. Peabody was otherwise engaged, and a Dr. Johnston was assigned to perform the operation. An anesthetic was administered and the finger and palm of the hand were opened, when it was discovered that the superficial and deep tendons had adhered together, and to separate them it was necessary to sheathe each in added fascia. Upon discovering this, Dr. Johnston summoned Dr. Peabody and they agreed that it would be necessary, in order to obtain the best results, to remove some fascia from a limb of the patient and to transplant it to hand. The plaintiff was unconscious and therefore not consulted, and the fascia was taken from the limb to complete the operation. The plaintiff claimed some injuries to her limb, and it was on that ground that suit was instituted, the Supreme Court of Michigan stating:

"Accepting plaintiff's claim as true, Dr. Johnston, in operating upon her thigh without her consent, committed a trespass to her person for which he would be liable to respond in damages in an action for assault and battery."

The Court stated that the general rule was as follows:

"Where a patient is in possession of his faculties and in such physical health as to be able to consult about his condition, and no emergency exists making it impracticable to confer with him, his consent is a prerequisite to a surgical operation by his physician; and a surgeon who performs an operation without his patient's consent, express or implied, commits an assault for which he is liable in damages."

An exception, of course, exists in the case of emergencies endangering the plaintiff's life. This was passed on by the Michigan Supreme Court in the case of *Luka v. Lowrie*, 171 Mich 122, decided in July, 1912, where the plaintiff, a boy fifteen years old, had had his foot badly injured and four physicians who examined it concluded it was necessary to amputate the foot, and sent for the defendant, who examined the patient and decided the foot must be amputated. The plaintiff being unconscious and having no friends or relatives accessible, the foot was amputated by the defendant, and later suit was instituted against him based upon the charge of assault and battery. The Court held that the doctor was justified in treating this case as an emergency and that in such a case he was entitled to use his best judgment.

There are several other situations that may arise but have not been passed on by our Michigan courts. Courts of other states have held that the consent of a husband is necessary for an operation on an insane wife, and that the consent of the mother is sufficient in case of an adult daughter temporarily incompetent by reason of illness.

We have been unable to find any case in which the parents have refused consent to a necessary operation because of ignorance or religious reasons that has been passed on by a court of record. All of us have read newspaper articles at various times pertaining to this question, but it seems never to have come before a court of last resort. Such a question will merit careful consideration when it does arise.

A Frenchman was relating his experience in studying the English language. He said:

"When I first discovered that if I was quick, I was fast; that if I was tied I was fast; if I spent too freely I was fast and that not to eat was to fast, I was discouraged. But when I came across the sentence, 'The first one won one one-dollar prize' I gave up trying to learn the English language."

A MOMENT OF MEDICAL HISTORY

WILFRID T. DEMPSTER, D.Sc.

Ann Arbor, Michigan

BACTERIOLOGICAL AND TISSUE CULTURE METHODS

(Concluded)

A great difficulty in bacteriological work during the 1870's and earlier was the production of pure line cultures of bacteria. If the material to be cultured consisted of several forms rather than one, it was impossible in routine culturing to separate these forms. Lister (1878) attempted to separate a complex culture by dilution and subsequent reculture of as small a quantity of diluted culture as would contain a single organism. This process was tedious and uncertain. Klebs subjected mixed cultures to a series of constant temperatures in the hope that certain strains would thrive while others would be killed.

In the early studies on anthrax and septicemia during the 1870's, the animal body was considered a perfect culture medium for pathogenic forms. If a heterogeneous inoculation were made into a laboratory animal, it was found that one type of organism became localized in certain regions of the body where it formed typical pathological lesions, while another type of bacterium either disappeared entirely or was localized in lesions of a different sort. This discovery, however, was of little value with non-pathogenic forms.

Another technic, consequently, acquired more widespread use. Schroeter (1872) studied chromogenic bacteria cultured on potato, and he found that growths of these organisms could be separated because of their color. Each type of organism formed a colony of a specific color. The inoculated potato thus showed spots of red, green, brown or other colors, each color indicating a pure strain. Koch (1881) also used potato culture bacteria, but he found the opaque character of this medium was a drawback in dealing with colorless bacteria. He conceived that a transparent, solid, sterile medium was desirable. A solid medium would permit colony formation; a transparent medium would allow different colonies to be recognized. The addition of two to five per-

cent gelatin to broth formed a nutrient culture medium meeting Koch's requirement. At first, the material to be cultured was wiped across the surface of the nutrient gelatin. Later (1883), the inoculum was thoroughly mixed with the melted medium, which was in turn poured upon a plate of glass to form a solid, gelatinous film. In either case, the progeny of specific bacteria gave rise to growths or colonies which were localized on the gelatin.

Koch's method of using solid transparent media almost revolutionized bacteriological technic, and nearly all later advances in practical bacteriology were in some way dependent on this method. An important modification in the technic of transparent media came with the introduction of agar-agar as an alternate, solid nutrient material. This substance which remained solid at higher temperatures than gelatin was introduced in 1882 along with coagulated blood serum. There are now well over a thousand nutrient media having a solid basis, and most of these are transparent.

In the routine technic with solid media, sterile squares of glass were plated with the nutrient medium and were placed under bell jars, which were sealed to a glass table to prevent external contamination. Proper humidity was preserved within the bell jar by the introduction of moist blotting paper. An assistant of Koch named Petrie improved the technic in 1887. He poured agar-agar or gelatin media into shallow plates fitted with covers. The Petrie dish was more easily handled than the bell jar and did not require special methods for keeping the humidity adjusted. It, therefore, replaced the more cumbersome method and is important in routine culture work today.

Another adjunct to culture methods was the incubator. Since bacteria flourished better at certain temperatures than at others, a means for maintaining a constant temperature was essential. In the early days of bacteriological technic, cultures were kept at room temperature or were placed in a water bath, the temperature of which was raised slightly by a low burning gas flame. Later, incubators which were independent of room temperature and which could be controlled with fair accuracy came into use. In some of the larger laboratories, such as that of Pasteur, whole rooms were adapted as incubation chambers. More commonly,

vessels, surrounded by a double-walled water jacket covered with asbestos insulation, served as incubators. These were provided with thermostats or devices for regulating the flow of gas to the heating burner.

Thermoregulators were often ingenious in design. As early as 1877, Miguel devised thermoregulators in which a bar of zinc was so adjusted in relation to a gas inlet that an increased temperature in the incubating chamber caused the metal to expand with an ensuing reduction of gas pressure. As the incubator cooled, the zinc rod contracted and allowed more gas and thus more heat. Other regulators required an expanding and contracting column of fluid, such as ether, alcohol or mercury, for diminishing and increasing the flow of gas to the heating flame. The d'Arsonval thermoregulator was one of the most popular of the latter type. During the later 1880's, numerous instrument makers provided incubators and thermoregulators to meet all demands for temperature control. In another decade, incubators with electrical relays and heating units vied in popularity with the gas-heated apparatus. Still later, gas was entirely supplanted by electrical equipment.

Through diverse methods of sterilization, protection from contamination and incubation of sterile media, and through a variety of culture media, investigators of bacteria have built up the science of bacteriology. Culture methods have also been of service in the investigation of fungi and the lower animals, as well as in the study of the anatomy and physiology of animal tissue.

Physiologists had long ago discovered that tissues removed from the body fared better in sea water and normal saline solutions than they did in fresh or distilled water. Ringer (1880-1883) found that the pulsation of an isolated frog heart remained more normal if the saline solution used for perfusion were supplemented by potassium and calcium salts and rendered slightly alkaline by sodium bicarbonate. Two decades later, Locke was able to keep heart, kidney and gland tissue of the rabbit in an active state for several hours. Roux and Born found that isolated blastomeres of a frog's egg could be kept alive and growing in filtered egg albumen. It was thus demonstrated that living tissues could be kept alive apart from the animal body. Such tissues, however, ordinarily showed physiological

abnormalities or died from functional causes or because of contamination.

Leo Loeb, in 1897, implanted epithelial cells imbedded in a clot into the peritoneal cavity and subcutaneous tissues of guinea pigs and noted growth. Tumor cells had been similarly implanted previous to this time. Thus it was shown that tissue, if placed in a proper environment, could grow. During the first three years of the present century, blood cells were cultivated *in vitro* by Hirschfeld and Deetjen, Bodon and Joly. The cells remained alive for periods as long as two weeks. In 1907, Ross Harrison, using the most rigid aseptic technic, managed to keep a minute piece of embryonic frog nerve tissue alive and growing in a culture medium consisting of coagulated frog lymph. The nerve fibers grew and differentiated and were continuously observed in a hanging drop preparation. A similar technic was adapted by Burrows (1910) to the study of mammalian tissues in blood serum. Simultaneously, Carrel made studies on the culture of embryonic and cancerous tissues. Later, he found that embryonic juices added to a culture allowed indefinite growth of tissues through the presence of growth-promoting substances which he called trephones. Further developments in tissue culture technic came with the work of Carrel, the Lewises, Fischer, Levi and others. The requirements for a successful tissue culture were aseptic technic, a solid substrate on which the cells could migrate, a satisfactory nutrient medium, an appropriate temperature and the use of growth-promoting substances. The principal culture media used were lymph, blood serum, sometimes egg albumen and tissue extracts, particularly those from embryos, leukocytes and bone marrow. These were solidified by heat. Gelatin and agar-agar were likewise used.

The most recent development of culture methods is concerned with growing whole organs *in vitro*. Though this method requires meticulous surgical technic, suitable incubation and a mechanism for oxygenat-

ing fluid, it involves particularly the development of methods for perfusing the blood vessels with nutrient media or blood in such a way that normal systolic and diastolic pressures are maintained. According to the recent method (1935) of Alexis Carrel, who had the mechanical assistance of Col. Lindbergh, the aviator, in the construction of the apparatus, organs are removed from an animal together with their vessels. The artery is connected with the apparatus by a cannula and the organ is placed in a culture chamber. A sterile pulsating circulation is forced through the organ at definite, pulsating pressures. A quantity of fluid equal to two thousand times the volume of the perfused organ is required. Ordinarily, blood serum containing a small amount of phenol red as an indicator is used. Alternate fluid media containing protein split-products, hemin, cysteine, insulin, thyroxin, glutathione, vitamin A, ascorbic acid, blood serum, etc., are useful.

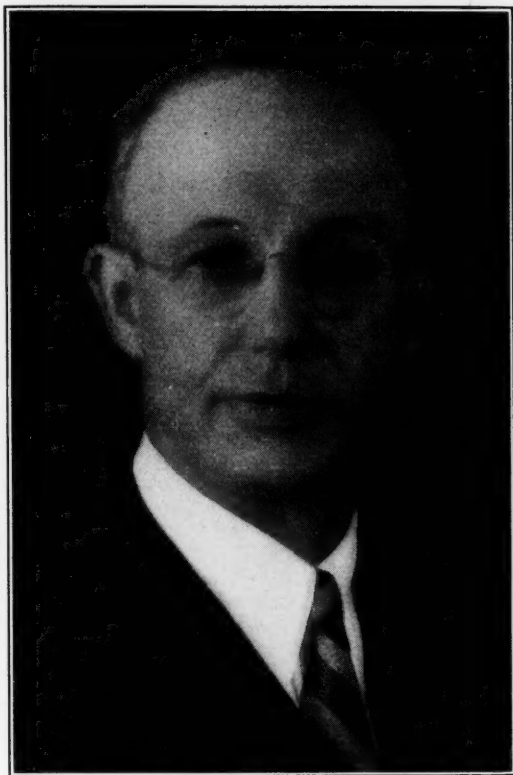
The nutrient fluid, after passing through an aërating chamber, where it is exposed to a regulated concentration of aërating gases, enters the organ as a pulsating, nutrient stream. Quantities of fluid may be removed for chemical analysis at any time and the pressure, temperature and character of the nutrient media may be varied with the experiments. With this apparatus "an entire organ, such as an ovary, has been maintained alive *in vitro*. It not only survived, but increased in size and in weight. This increase was due to the appearance of new cells and tissues. It is, therefore, probable that this method provides important uses in physiological chemistry, physiology and pathology." The technic will be turned to such purposes as "the manufacture *in vitro* of the secretions of the endocrine glands, the isolation of the substances essential to growth, differentiation and functional activity of these glands, the discovery of the laws of the association of organs, the production *in vitro* and the treatment of organic and arterial disease."

THE SOO MEETING

One of the most satisfactory annual meetings ever held by the Michigan State Medical Society has passed into history. Ideal weather, clear blue skies greeted those

opened their comfortable homes and extended the hand of welcome.

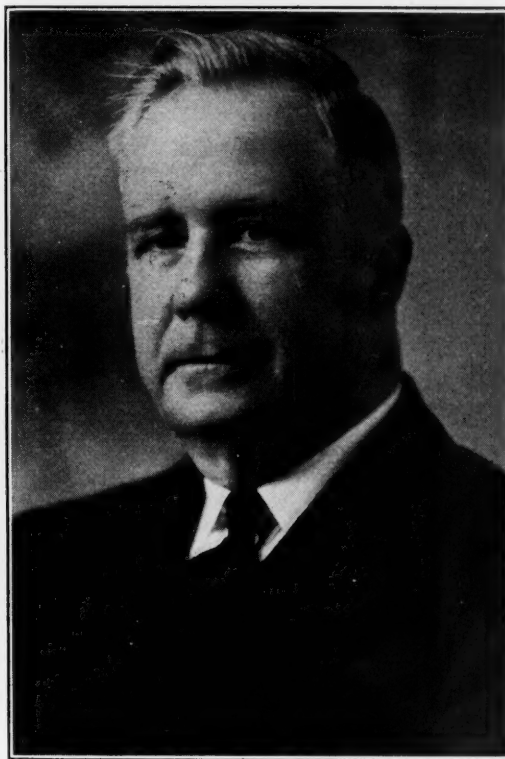
The annual meeting opened Monday, September 23, with the first session of the House of Delegates at 3:00 P. M. The November number of the JOURNAL will be



DR. GROVER C. PENBERTHY of Detroit
President of the Michigan State Medical
Society for 1935-1936

members and their wives and families who rolled northward and eastward over the broad highways of Michigan, flanked, as one nears his destination, with pine, fir and hemlock, when an opportunity was afforded the visitors to view the highway development of the upper part of lower Michigan as well as the extreme eastern portion of the Upper Peninsula. Not only are the highways broad and substantial but there is a very commendable effort in landscaping the upper route. Wherever streams call for bridges, the bridges are models of artistic design. The delicate tints here and there of early frost, the deep blue of the numerous lakes all combined to produce an artist's paradise almost anywhere.

While the Soo is one of the smaller cities of Michigan, no one suffered for lack of accommodation. While the limitations of hotel space were taxed to the utmost, citizens



DR. H. E. PERRY
President-Elect, Michigan State Medical Society

Dr. H. E. Perry of Newberry was elected president-elect of the Michigan State Medical Society. Dr. Perry is a graduate of the Michigan College of Medicine and Surgery, 1897. He is also a graduate of the Northwestern University Medical School, 1904. Since his graduation he has practiced in the Upper Peninsula. His interest in Michigan medicine has been recognized by his activity in medical affairs outside his immediate practice. He has been president of the Upper Peninsula Medical Society and for the past two years he has served on the Council of the Michigan State Medical Society, representing the eastern portion of the Upper Peninsula or 12th Councilor District. He has also served as a member of the state legislature, having been elected in 1932.

largely devoted to the publication of the transactions of that body so there will be no attempt to anticipate the verbatim report here.

The members of the Council whose terms had expired were re-elected. These included Dr. A. S. Brunk of Detroit, Dr. J. E. McIntyre of Lansing, Dr. George C. Hafford of Albion, Dr. Frederick A. Baker of Pontiac. Dr. F. C. Bandy of Sault Ste. Marie

was elected Councilor to fill the vacancy caused by the election of Dr. H. E. Perry as President-Elect.

Members of the House of Delegates went on record as favoring a full-time executive and requested that a full time secretary be

The arrangement of the exhibits, both scientific and commercial, was in the highest degree satisfactory to exhibitors and Society members alike.

A feature of the Scientific Exhibit was the presentation not only of photographs,



DR. FRANK E. REEDER of Flint

Elected Speaker of the House of Delegates to succeed Dr. H. A. Luce.



DR. F. C. BANDY of Sault Ste. Marie

Newly elected Councilor for District No. 12. Dr. Bandy was elected to succeed Dr. H. E. Perry, the President-Elect.

appointed with the least possible delay. Doctor Ekelund of Pontiac was appointed Medical Secretary at the January meeting of the Council to succeed Dr. B. R. Corbus, whose term expires on the 15th of October. The Medical Secretary will be responsible for the policies of the Society under the Council and the House of Delegates. The Executive Secretary, Mr. W. J. Burns, will have charge of the details of the administration of the Society, including the business management of the JOURNAL.

Dr. B. R. Corbus concludes thirteen years of valued and efficient service to the Society. He has served as Councilor, as Chairman of the Council and of the Executive Committee and, as the past year has proved, a most efficient successor to Dr. F. C. Warnshuis, who resigned to go to California. Dr. Corbus has put forth every effort for a successful annual meeting that is in the utmost degree commendable.

specimens and x-ray films, but the fact that these were demonstrated to the small groups that assembled at frequent intervals to observe and study them.

Dr. Grover C. Penberthy, president of the Society, had a rare and extensive exhibit and demonstration of the treatment of burns which consisted of a moving picture demonstration of operations and methods, of photographs showing various stages and a unique feature whereby colored photographs were magnified to life size and presented by means of a special viewing apparatus whereby the photographs of the results of treatment were demonstrated.

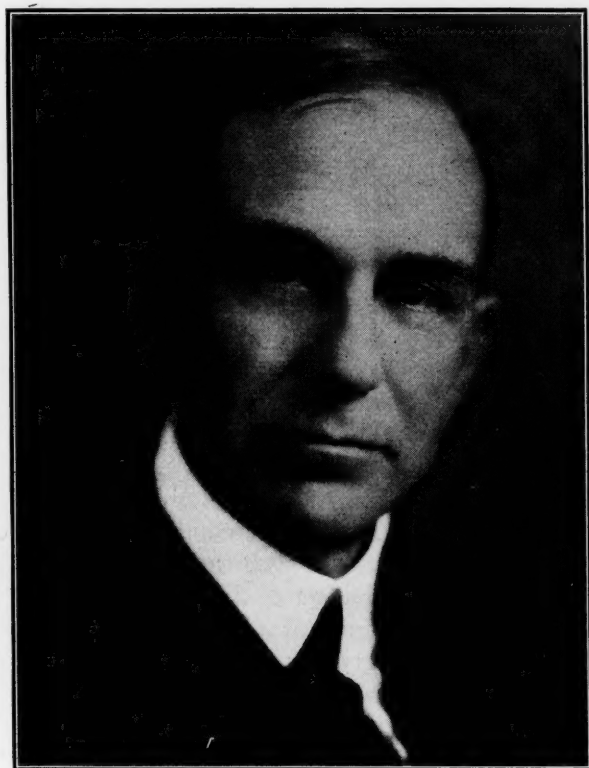
Dr. C. J. Gurdjian had a splendid exhibit of head injuries due to accidents. Almost every type of brain and skull injury was demonstrated. Dr. Gurdjian, in person, explained the charts and diagrams, which fact added greatly to the understanding as com-

pared with the result without the demonstration.

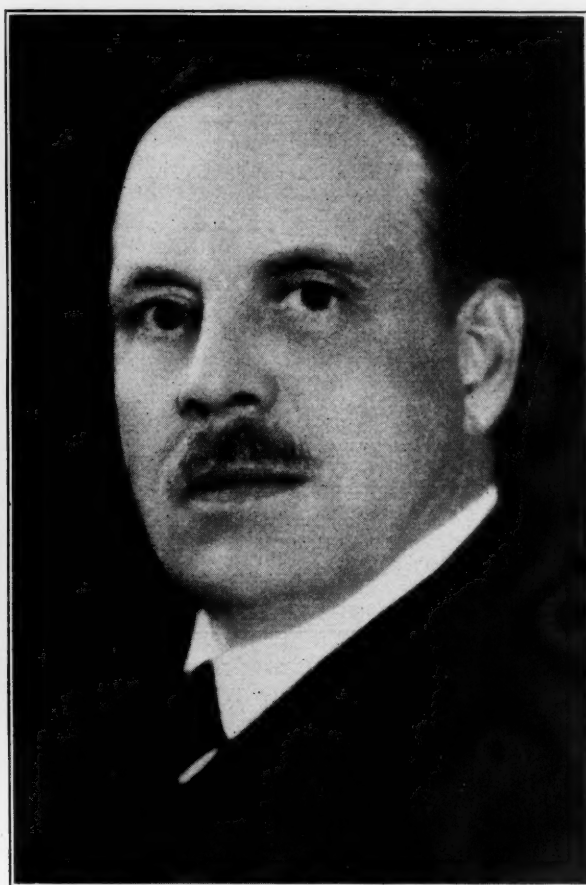
Dr. W. H. Hudson had a very interesting exhibit on thoracic surgery which he also explained in person to those interested. Among other things, his radiographs illus-

The House of Delegates passed a resolution establishing a section on radiology.

The cancer exhibit was sponsored by the Cancer Committee of the State Medical Society and the American Society for the Control of Cancer. It consisted of thirty-four



DR. RICHARD R. SMITH of Grand Rapids
Immediate Past President of the Michigan
State Medical Society



DR. BURTON R. CORBUS of Grand Rapids
Doctor Corbus has retired after thirteen years
as Councilor and one year as Secretary of the
the Michigan State Medical Society.

trated foreign bodies inhaled and also in the esophagus, together with the methods of their removal; pneumothorax in tuberculosis; intrapleural pneumolysis for pulmonary adhesions by the closed method; extrapleural pneumolysis with paraffin; selected thoracoplasty for limited pulmonary tuberculosis; radical thoracoplasty; carcinoma of the lung with diagnosis by x-rays and endoscopy; mediastinal tumors and diverticuli of the esophagus; pulmonary sequestra.

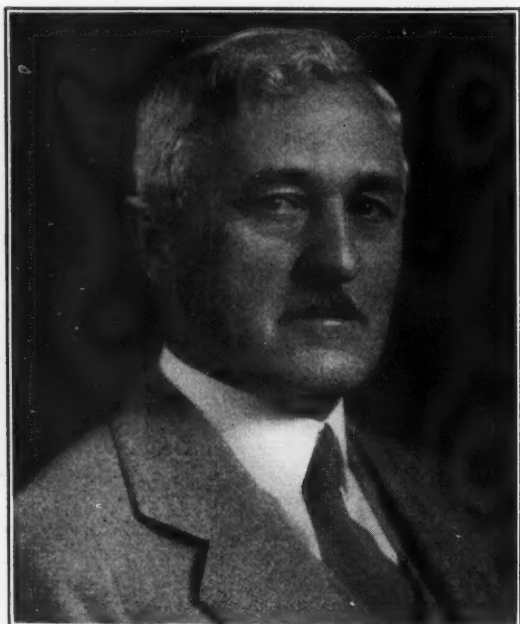
The Michigan Roentgenological Society had an extensive exhibit, not of the rare and unusual findings in roentgenology, but of conditions which come up in the routine of the practice of medicine and surgery. These films were splendidly arranged with films showing the various lesions as compared with the normal conditions. A complete list of the specimens shown appeared in the September number of the JOURNAL.

wax models of cancerous lesions of the breast, skin, mouth, lip, stomach, rectum, and uterus, each model accompanied with a concise clinical history and photograph of the patient showing the lesion *in situ*.

There was a series of charts showing differential diagnosis of cervical lesions, classification of uterine cancer, and methods of prevention. A similar series was devoted to cancer of the breast, emphasizing the hopefulness of early diagnosis and treatment. Additional charts dealt with deaths and death rates for the United States.

By a series of outline maps of the United States, the educational activities of state medical societies in the cancer field were graphically shown.

Throughout the period of the exhibit emphasis was placed on the value of early diagnosis and early adequate treatment of this disease. Some models of advanced cancer were shown to emphasize the dangers of delay in diagnosis and therapy.



DR. H. A. LUCE of Detroit

Doctor Luce has served for several years as Speaker of the House of Delegates and has retired from official service in the Society.

The Michigan Department of Health presented a graphic exhibit of samples of biological products supplied by the Department. Maps and graphs were exhibited showing maternal and infant mortality, full time county district Health Departments, cancer and tuberculosis statistics.

Dr. Clair Straith exhibited numerous photographs showing extensive traumatic lesions of the head, and nasal deformities which were corrected by plastic surgery.

Dr. George Walbott had a very interesting and instructive exhibit illustrating allergic shock. The presentation was in the form of charts and photographs.

The subject of hematuria in its broadest aspects was presented by Dr. Robert A. MacArthur by means of transparencies, gross dissections and photomicrographs.

Beverly Drake Harison

Plans were made to honor the memory of Dr. Beverly Drake Harison, at one time a resident of Sault Ste. Marie, who was instrumental in establishing restrictive medi-

cal legislation in Michigan. The recognition was to be in the form of a tablet mounted in one of the public parks of the Soo. Owing to the fact that the tablet had not been completed at the time of the annual meeting its unveiling had to be postponed. At some time in the near future, however, this tablet will be placed in position with the following inscription:

BEVERLY DRAKE HARISON
1855-1925

Prominent Sault Ste. Marie physician. Foremost in Michigan medical registration. One of the founders of the Upper Peninsula Medical Society—President of the Michigan Medical Society 1904.

Among the entertaining features of the convention was the noon luncheon Monday, September 23, served to about 300 members and guests at the Ojibway Hotel. Dr. Richard R. Smith, president of the Society, presided. Doctor Smith, in a suitable introduction, referred to the achievements of the Honorable Chase S. Osborn, at one time Governor of Michigan. Mr. Osborn followed with a delightful address in which he recounted the early efforts in the history of Sault Ste. Marie and the locality.

Many members and their families availed themselves of the opportunity for a boat ride through the locks, where a pleasant two hours was spent on the St. Mary's River.

A buffet luncheon was served Monday night, following the adjournment of the House of Delegates.

The 1936 annual meeting will be held in Detroit.

The following names were added to the emeritus list of the society: Dr. John A. Wessinger, Ann Arbor; Dr. Alvin H. Rockwell, Kalamazoo; and Dr. Edward Ames, Kalamazoo.

The commercial exhibits are particularly worthy of mention. Each was housed in a separate booth with drapes and partitions that were uniform for both commercial and scientific exhibits. The commercial exhibitors expressed satisfaction with the provision for the display made for the various products.

The editor wishes to take this opportunity to thank the outgoing officers: Dr. Richard R. Smith, president; Dr. Burton R. Corbus, secretary; Dr. Henry A. Luce, and Dr. Julius Powers, for their courteous assistance during the past year.



The Editor's Easy Chair

THE DOCTOR AND THE PUBLIC*

One can scarcely imagine a more interesting subject. The physician has held a very definite relation to the public from times immemorial. Coincident with the earliest civilization, yes, even before any definite civilization, was the urge to live and resist man's common enemy, disease. The medicine man or physician was a reflection of the times in which he lived. The more enlightened the age, the more intelligent the efforts to overcome disease. Dr. Warbasse's book is a résumé of the history of medicine from the earliest times to the present. It differs from most histories inasmuch as the author has interspersed his historical narrative with comments which only a resourceful mind would make. We have seldom read a more quotable book. Regarding medicine among the savage tribes, the author writes:

"For countless ages, he was under the spell of the mystical and the unreal. However, to him everything was real because there was no unreal. His mysticism explained everything. But he lived in fear of vicious forces. His pains, his aches, and his deaths were due to invisible creatures which were to be placated, appeased, deceived, cajoled, intimidated, driven out, or destroyed, precisely as he treated animals and men who offended against him. Instead of treating his diseases directly, as did the animals and his ancestors, he proceeded to propitiate the unseen spirits. For thousands of years, he treated the intermediary spirit forces. His thinking led him into an error that wrought incalculable harm."

Then came the age of the physician.

"Thus in the nebulous past, amid the mists of mythology, the physician was born. The gods once were human. These ancient thinkers, discoverers, and leaders were bodies of flesh and flashing eye. They were animated by the longings, the loves, and the disappointments of men. In the onward movement of time, their characters have become swathed in the robes of legend. Their faces have been dimmed by the haze of distance. They have grown apocryphal, and have passed with illusive slowness into the realm of tradition as the diaphanous cur-

tain of time has closed about their forms and left them, like ghosts, bereft of substance, standing in the frontiers of oblivion."

* * *

"Rome decayed and fell. The same thing has happened before and since. History knows it well. Prior to the so-called French Revolution, the excessively wealthy dominant class were not satisfied with the winters at home but moved to the Riviera. The Russian ruling class, before their fall, carried their luxury to the salubrious sands of the Caspian Sea. And the modern Romans can be seen today, in the winters, at southern resorts. History does pretty much the same thing, in pretty much the same way. Human nature continues constant to form."

* * *

This is important for medicine because medicine is profoundly influenced by the ebb and flow of civilizations. Economic and intellectual collapse for the people means the same thing for medicine, which has its periods of depression and its dark ages along with the rest of society. Medicine emigrates and goes with the conquering races, enjoys their prosperity, and suffers their decay.

* * *

"Greece had the best of medical science, but the Romans disliked the Greeks as all peoples dislike their superiors."

* * *

"Health is not wholly a matter within the province of doctors. It is the great interest which is touched by every department of life and society. The fluctuations of temperature and of the stock market cause fluctuations in health disease. Peace and war affect health vitally. Even the tariff and the rate of exchange have their influence. Medicine penetrates every social and economic cranny."

* * *

"There is where the matter stands now. Men make war; God makes peace. Men kill one another; God saves them. A man falls overboard; if he is rescued, God saved him; if he drowns, he neglected to use the saving powers which God had offered. Until recent times, the Devil also played a large part in man's affairs. He did the bad things and God did the good things. This division of labor was in effect until recent years when the Devil was laughed out of the picture."

* * *

"Wealth and privilege, associated with a sense of guilt, are sensitive and fearful, and easily moved to violent acts of self defense."

* * *

"There are innate in the human character certain qualities that are constant in all races, nor are they destroyed by beliefs. Kindness, charity, a sense of justice, and a willingness to help the needy are eternal as well as natural in man. The Christianity has disposed people to do for others. Its history is filled with noble examples of self-sacrifice, heroism, and help of the needy. It exalts kindness both in theory and in action. No major class of people practice consideration of others to the degree practiced by those professing Christianity. Among most other sects, a sick or aged person lying by the wayside does not elicit the same degree of sympathetic attention of the passerby. Among the Christian nations, such need calls for help, expects help. This may be said to be the practical quality of Christianity. It is a quality that has had much to do with advancement of medicine among the western peoples."

* * *

"Quackery is largely a reflection of the mass mind. In the field of political action, Edmund Burke said, 'There never was for any long time a corrupt representation of a virtuous people, or a mean,

*The Doctor and the Public; A study of the sociology, economics, ethics, and philosophy of medicine, based on medical history. By James Peter Warbasse, M.D., author of "Surgical Treatment," "The Conquest of Disease," "Medical Sociology," "Coöperative Democracy," etc. Illustrated. Paul B. Hoeber, Inc., New York.

sluggish, careless people that ever has a good government of any form.' The character of the people is reflected in the representatives. This is true of medicine. Where quacks and quackery prevail, we may know that the public itself is rife with charlatanism. An ignorant, money-seeking people invite quackery because they themselves are steeped in quackery. An enlightened community demands and breeds good doctors. The promotion and appreciation of medical science and practice are an index of human progress."

These extracts are a sample of the pregnant paragraphs that appear as comments throughout the work.

The author believes that a medical education is broad enough to qualify the possessor in other things. It enables one to understand the physical self: It should promote the habit of the scientific method of thought. It develops or should develop the power to understand. He believes that the medical approach is as applicable to social, business and national affairs as to the bedside. Examination, diagnosis and treatment might be applied logically and rationally to the sick world.

The Doctor and the Public implies a confidential relationship. The public should be taught as much as it is capable of comprehending, of the structure and functioning of the various organs and systems of the body. The author would have human dissections taught in high school. Such instruction would in a generation or so eliminate quackery as well as rid men and women of the squeamishness and ignorant morbidity that characterizes their present attitude towards a dead human body. Medicine should be shorn of its mystery. The ghosts are best driven out by opening the doors and letting in the light. There is nothing in medicine that puts it beyond the lay mind. Any mysteries that may appear to accompany it are the mysteries of all learning; once mastered, the mysterious becomes elementary.

Dr. Warbasse goes on to say that the quality of doctors would be improved by adding social thinking to their training. This may be done by a course in medical history properly taught. He would not be content with the presentation of bare facts, names, events, dates and places. Medical history should include medical philosophy, medical ethics, and medical economics. If we may interpret philosophy in not too strict a sense, that is what Dr. Warbasse has done in this fascinating volume. He

who knows only medicine knows not even medicine.

Under a section "Medicine as a Business," the author goes into the history of the doctor's honorarium, but concludes that he who looks upon his fee as his chief reward is a poor specimen. He quotes John Hunter's famous regret at the commercial side of medicine, "I must go out and earn that damned guinea. I shall be sure to want it tomorrow." In 1929, when prosperity in this country was at its height, and the average of net incomes of physicians in private practice was \$5,300, for every physician who had a net income over \$10,000, there were two whose net incomes were less than \$2,500. In 1928 half the families of the United States had incomes less than \$2,000. In 1926 the per capita income was \$735. These sums have been greatly reduced during the last six years so that in thousands of instances they have been completely wiped out. These data constitute the sources from which the doctor must derive his income. Corollary to this the author goes on to maintain that medicine is coming to be looked upon more and more as a social possession. Paradoxical as it might seem, Dr. Warbasse would have many more, rather than fewer, physicians than we now have and he would have them organized so as to be continually busy practicing preventive medicine. There are about three and one-half millions of people in the United States constantly ill with incapacitating disease. These, it goes without saying, are parasites on society. They impose a burden upon those who might be better occupied. The medical profession might better give its attention to those who are well and thus prevent them from becoming incapacitated. While the socialization of medicine tends to remove physicians from business competition with one another, Dr. Warbasse does not favor it inasmuch as it would place medicine under political control. He favors forms of group practice on a large scale where the patient may obtain the advantage of the "composite doctor."

He suggests physicians organizing as companies or profit-sharing corporations with the income divided among the members. He makes it clear that the practice of medicine must be wholly within the control of doctors, that no third party in the

way of lay business management must be permitted to intervene. The author would insure doctors a measure of economic security by awarding them incomes of \$4,000 to \$7,000 dollars a year without any professional overhead.

We fear the solution of the medical problem, whatever it may be, cannot be accomplished so easily.

INTERSTATE MEDICAL ASSEMBLY

As already announced in this JOURNAL, the twentieth anniversary assembly of the Interstate Post Graduate Medical Assembly will be held in Detroit at the Masonic Temple on October 14, 15, 16, 17 and 18. In addition to the scientific program which is presented in this number of the JOURNAL, there will be large technical and scientific exhibit, which will also be housed conveniently in the exhibition halls of the Detroit Masonic temple. The various local committees in charge of the arrangements have left nothing undone to contribute to the comfort and entertainment of the guests. The program is as follows:

Pre-Assembly Clinics, October 12

Post-Assembly Clinics, October 19

Detroit Hospitals

Monday, October 14, 8:00 A. M.

Diagnostic Clinic: "Anemia."

Dr. Cyrus C. Sturgis, Professor of Internal Medicine, University of Michigan Medical School, Ann Arbor, Mich.

Diagnostic Clinic: "Peptic Ulcer."

Dr. Donald C. Balfour, Professor of Surgery, University of Minnesota Graduate School of Medicine, Rochester, Minn.

Diagnostic Clinic: "Types of Edema and their Treatment."

Dr. Henry A. Christian, Hersey Professor of the Theory and Practice of Physics, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic: "Factors Influencing the Healing of Fractures."

Dr. William Darrach, Dean Emeritus and Professor of Clinical Surgery, Columbia University College of Physicians and Surgeons, New York, New York.

Address: "Pneumonias of Childhood."

Dr. Charles H. Smith, Professor of Pediatrics, University and Bellevue Hospital Medical College, New York, N. Y.

Noon Intermission

1:00 P. M.

Diagnostic Clinic: "Headache."

Dr. Elliott C. Cutler, Moseley Professor of Surgery, Harvard University Medical School, Boston, Mass.

Address: "Plastic Operations on the Lower Urinary Tract for Congenital Deformities."

Dr. Hugh H. Young, Professor of Urology, Johns Hopkins University School of Medicine, and Director of the Brady Urological Institute, Johns Hopkins Hospital, Baltimore, Md.

Address: "Lead Poisoning in Children."

Dr. Harold B. Cushing, Clinical Professor of Pediatrics, McGill University Faculty of Medicine, Montreal, Canada.

Address: "Hyperplastic Tuberculosis of the Large Bowel, its Diagnosis, Treatment and Prognosis."

Dr. Fred W. Rankin, Lexington, Ky.

Address: "Diagnosis and Treatment of Diseases of the Esophagus."

Dr. Gabriel Tucker, Professor of Bronchoscopy and Laryngological Surgery, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.

Address: "Indications for and Advantages of Vaginal Hysterectomy."

Dr. Alexander W. Blain, Professor of Surgery, Wayne University College of Medicine, Detroit, Michigan.

Dinner Intermission

7:00 P. M.

Address: "Thoracic Surgery."

Dr. George J. Heuer, Professor of Surgery, Cornell University Medical College, New York, N. Y.

Address: "A Critical Estimate of the Value of Laboratory Procedures in Disorders of Metabolism."

Dr. John P. Peters, John Slade Ely Professor of Medicine, Yale University School of Medicine, New Haven, Conn.

Address: "Tendon Transplantation in the Lower Extremity."

Dr. Frank R. Ober, Assistant Dean, Harvard Medical School Course for Graduates; Clinical Professor of Orthopedic Surgery, Harvard University Medical School, Boston, Mass.

Address: "Hyperthyroidism in Patients over Fifty Years of Age."

Dr. Charles A. Elliott, Professor of Medicine, Northwestern University Medical School, Chicago, Ill.

Tuesday, October 15, 8:00 A. M.

Diagnostic Clinic: "Tuberculosis."

Dr. James A. Miller, Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York, N. Y.

Diagnostic Clinic: "The Prostate Gland."

Dr. William E. Lower, Cleveland Clinic, Cleveland, Ohio.

Diagnostic Clinic: "Chronic Arthritis."

Dr. Russell L. Cecil, Professor of Clinical Medicine, Cornell University Medical College; Professor of Internal Medicine, New York Polyclinic Medical School and Hospital, New York, New York.

Diagnostic Clinic: "Diverticulitis and Diverticulosis."

Dr. John F. Erdmann, Attending Surgeon of the New York Post Graduate Hospital and Medical School, New York, N. Y.

Address: "The Present Status of Bronchoscopy in Bronchial Asthma."

Dr. Louis H. Clerf, Professor of Bronchoscopy and Esophagoscopy, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

*Noon Intermission***1:00 P. M.**

Diagnostic Clinic: "Diseases of the Skin in Infancy and Childhood."

Dr. Howard Fox, Professor of Dermatology and Syphilology, University and Bellevue Hospital Medical College, New York, N. Y.

Address: "Diphtheria Prevention, Methods and Results."

Dr. John G. Fitzgerald, Dean and Professor of Hygiene and Preventive Medicine, University of Toronto Faculty of Medicine, Toronto, Canada.

Address "Empyema."

Dr. Charles R. Austrian, Associate Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, Md.

Address: "Diagnosis and Treatment of Surgical Lesions of the Spinal Cord."

Dr. Alfred W. Adson, Professor of Neurosurgery, University of Minnesota Graduate School of Medicine, Rochester, Minn.

Address: "The Differential Diagnosis of the Major Psychoses."

Dr. Clarence B. Farrar, Professor of Psychiatry, University of Toronto Faculty of Medicine, Toronto, Canada.

Address: "Interrelationship of Mother and Fetus."

Dr. Fred L. Adair, Professor of Obstetrics and Gynecology, The School of Medicine of the Division of Biological Sciences, University of Chicago, Chicago, Ill.*Dinner Intermission***7:00 P. M.**

Address: "The Surgical Treatment of Cranio-Cerebral Injuries."

Dr. Loyal Davis, Professor of Surgery, Northwestern University Medical School, Chicago, Ill.

Address: "Conceptions of Diabetes as Modified by Recent Studies of the Hypophysis and the Adrenals."

Dr. David P. Barr, Busch Professor of Medicine, Washington University School of Medicine, St. Louis, Mo.

Address: "The Water Balance of the Surgical Patient."

Dr. Frederick A. Collier, Professor of Surgery, University of Michigan Medical School, Ann Arbor, Mich.

Address: "The Importance of Dietetics in Modern Medicine."

Dr. Robert W. Keeton, Professor of Medicine and Head of the Department, University of Illinois College of Medicine, Chicago, Ill.**Wednesday, October 16, 8:00 A. M.**

Diagnostic Clinic: "Deficiency Diseases of Children."

Dr. Alan G. Brown, Associate Professor of Medicine (Pediatrics), University of Toronto Faculty of Medicine, Toronto, Canada.

Diagnostic Clinic: "Infections of the Kidney and Ureter."

Dr. Hugh Cabot, Professor of Surgery, University of Minnesota Graduate School of Medicine and Consulting Surgeon at the Mayo Clinic, Rochester, Minn.

Diagnostic Clinic: "The Gallbladder."

Dr. David Riesman, Professor of Clinical Medicine, University of Pennsylvania School of Medicine, Philadelphia, Pa.

Diagnostic Clinic: "Complications of Late Pregnancy."

Dr. John R. Fraser, Professor of Obstetrics and Gynecology, McGill University Faculty of Medicine, Montreal, Canada.

Address: "The Present Status of our Knowledge of the Suprarenal Cortical Hormone."

Dr. George A. Harrop, Associate Professor of Medicine, Johns Hopkins University School of Medicine, Baltimore, Md.*Noon Intermission***1:00 P. M.**

Diagnostic Clinic: "Benign Tumors of the Breast."

Dr. Edward J. Klopp, Professor of Surgery, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

Address: "Influence of the Anesthetic on the Risk of Operation."

Dr. George P. Muller, Professor of Clinical Surgery, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.

Address: "Fracture of the Neck of the Femur."

Dr. Dallas B. Phemister, Professor of Surgery, The School of Medicine of the Division of the Biological Sciences, University of Chicago, Chicago, Ill.

Address: "Acute Appendicitis in the Extremes of Life."

Dr. Urban Maes, Professor of Surgery, Louisiana State University Medical Center, New Orleans, La.

Address: "Studies in Abdominal Pain."

Dr. Frederick J. Kalteyer, Clinical Professor of Medicine, Jefferson Medical College of Philadelphia, Philadelphia, Pa.

Address: "Traumatic Subdural Hematoma."

Dr. William James Gardner, Cleveland Clinic, Cleveland, Ohio.**ASSEMBLY DINNER**

For members of the profession, their ladies and friends.

7:00 P. M.**Dr. Charles H. Mayo**, Master of Ceremonies**Observance of the Twentieth Anniversary of the Inter-State Postgraduate Medical Association of North America**

Address:

The Honorable Herbert A. Bruce, Lieutenant Governor of Ontario, Toronto, Ontario, Canada.

Address:

Rear-Admiral Cary T. Grayson, Chairman, The American Red Cross, Washington, D. C.**Thursday, October 17, 8:00 A. M.**

Diagnostic Clinic, "Psychoses Associated with Organic Brain Disease."

Dr. Louis J. Karnosh, Assistant Clinical Professor of Nervous Diseases, Western Reserve University School of Medicine, Cleveland, Ohio.

Diagnostic Clinic: "Differential Diagnosis between Gastric and Duodenal Ulcer and Gall Stones."

Dr. William D. Haggard, Professor of Clinical Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.

Diagnostic Clinic: "Ménière's Disease."

Dr. Walter E. Dandy, Adjunct Professor of Neurological Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Diagnostic Clinic: "Cardiac Diseases."

Dr. Harlow Brooks, Emeritus Professor of Clinical Medicine, New York University and Bellevue Hospital Medical College, New York, N. Y.

Address: "Treatment of Hyperinsulinism."

Dr. E. Starr Judd, Professor of Surgery, University of Minnesota Graduate School of Medicine, Rochester, Minn.

Noon Intermission

1:00 P. M.

Diagnostic Clinic: "Conditions Producing Splenomegaly."

Dr. Campbell P. Howard, Professor of Medicine, McGill University Faculty of Medicine, Montreal, Canada.

Diagnostic Clinic: "Obstructive Jaundice."

Dr. Waltman Walters, Associate Professor of Surgery, University of Minnesota Graduate School of Medicine, Mayo Clinic, Rochester, Minn.

Address: "Low Back Disability."

Dr. Wallace S. Duncan, Cleveland, Ohio.

Address:

Dr. Charles H. Mayo, President of Inter-State Postgraduate Medical Association of North America, Rochester, Minn.

Address: "Trigeminal Neuralgia."

Dr. Charles H. Frazier, John Rhea Barton Professor of Surgery, University of Pennsylvania School of Medicine and Professor of Neurologic Surgery, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.

Address: Bacterial Endocarditis."

Dr. Ralph A. Kinsella, Professor of Internal Medicine, St. Louis University School of Medicine, St. Louis, Mo.

Address: "The Treatment of Diseases of the Nasal Sinuses in Infants and Young Children."

Dr. Lee W. Dean, Professor of Otolaryngology, Washington University School of Medicine, St. Louis, Mo.

Dinner Intermission

7:00 P. M.

Address: "Diseases of the Thyroid Gland."

Dr. James H. Means, Jackson Professor of Clinical Medicine, Harvard University Medical School, Boston, Mass.

Address: "Agranulocytosis."

Dr. Russell L. Haden, Chief of the Medical Division, Cleveland Clinic, Cleveland, Ohio.

Address: "A Decade's Advance in Ophthalmology." The Joseph Schneider Foundation Presentation.

Dr. William H. Wilmer, Professor Emeritus of Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, Md.

Address: "Diagnosis and Treatment of Cancer of the Lip, Mouth and Throat."

Dr. Arthur C. Christie, Professor of Clinical Radiology, Georgetown University Medical School, Washington, D. C.

Friday, October 18, 8:00 A. M.

Diagnostic Clinic: "Traumatic Surgery of the Knee."

Dr. John J. Moorhead, Professor of Clinical Surgery, New York Post Graduate Medical School, New York, N. Y.

Diagnostic Clinic: "Diabetes."

Dr. Elliott P. Joslin, Clinical Professor of Medicine, Harvard University Medical School, Boston, Mass.

Diagnostic Clinic: "Malignant Tumors of the Breast."

Dr. Dean D. Lewis, Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore, Md.

Diagnostic Clinic: "Hypertension."

Dr. George Crile, Cleveland Clinic, Cleveland, Ohio.

Diagnostic Clinic: "Deficiency Diseases in Adults."

Dr. William Gerry Morgan, Dean and Professor of Gastro-Enterology, Georgetown University School of Medicine, Washington, D. C.

Noon Intermission

1:00 P. M.

Diagnostic Clinic: "Obstructive Lesions of the Bladder."

Dr. Joseph F. McCarthy, Professor of Clinical Urology, Executive Officer of the Department of Urology, New York Post Graduate Medical School, Columbia University, New York, N. Y.

Address: "The Stomach's Response to the Menu."

Dr. T. Wingate Todd, Henry Willson Payne Professor of Anatomy, Western Reserve University School of Medicine, Cleveland, Ohio.

Address: "Further Advances in our Knowledge of the Thymus and Pineal Glands."

Dr. Leonard G. Rowntree, Director Philadelphia Institute for Medical Research, Philadelphia, Pa.

Address: "The Diagnosis and Treatment of Surgical Lesions of the Pancreas."

Dr. Irvin Abell, Clinical Professor of Surgery, University of Louisville School of Medicine, Louisville, Ky.

Address: "The Diagnosis and Management of the Septic Appendix."

Dr. W. Wayne Babcock, Professor of Surgery and Clinical Surgery, Temple University School of Medicine, Philadelphia, Pa.

Address: "Surgical Treatment of Gall Stones."

Dr. Frank H. Lahey, Director of Surgery in the Lahey Clinic; Surgeon to the New England Baptist Hospital and New England Deaconess Hospital, Boston, Mass.

Foreign Acceptances to Date:

Professor Nikolaj Burdenko, University Surgical Clinic, Moscow, USSR.

Professor N. Krasnargorski, Children's Clinic, Medical Institute, Leningrad, USSR.

Tentative:

Professor Alfred Luger, Medical Department, University of Vienna, Vienna, Austria.

Mr. David P. D. Wilkie, F.R.C.S., Professor of Surgery, University of Edinburgh, Edinburgh, Scotland.

There will be frequent opportunities to visit the Exhibits.

NOTE—There will be pre-assembly and post-assembly clinics at all the Detroit hospitals to be given on October 12 and October 19. Programs will be available at the various hospitals on those dates.

DEPARTMENT OF SOCIETY ACTIVITY

Edited by The Secretary

OFFICERS FOR 1935-1936

The officers of the Michigan State Medical Society for the year 1935-1936 are as follows:

President, Dr. Grover Penberthy, Detroit; President-Elect, Dr. H. E. Perry, Newberry; Chairman of the Council, Dr. Henry Cook, Flint.

The Executive Committee of the Council is as follows:

Chairman, Dr. Henry Cook, Flint; vice chairman, Dr. T. F. Heavenrich, Port Huron; Dr. C. E. Boys, Kalamazoo; Dr. A. S. Brunk, Detroit; Dr. H. R. Carstens, Detroit; Dr. F. H. Reeder, Speaker, Flint.

Delegates to the American Medical Association are:

Delegate—Dr. L. J. Hirschman (re-elected), Alton; Dr. Ralph Pino, Detroit; Dr. George Currie, Flint; Dr. F. L. Foster, Bay City.

The place of meeting for 1936 is Detroit.

FEDERAL SURVEY OF CHRONIC ILLNESSES

A gigantic health inventory of the country will get under way on October 15. With an appropriation of \$3,450,000 of WPA money, the United States Public Health Service will begin a house to house canvass of 750,000 families selected as representative of the general population. Michigan is one of the nineteen states that has been chosen for this survey. The objective is to determine how many people suffer from physical disability or chronic illness, their geographic distribution, and the effect of this disability on the economics of the family.

The last two decades has seen a tremendous increase in the number of individuals of middle age and over. It probably is well that accurate statistics be obtained, since the presence of this large and increasing group must exert a tremendous influence on the general economic problem which the country, and especially industry, is called upon to face. In addition to specified chronic illnesses, data will be collected on other types of physical disability of sufficient severity to handicap the individual.

Undoubtedly the survey will extend beyond this house to house canvass, and other avenues of information will be used. As in

other activities under the New Deal, one has the feeling that the promoters are thinking more in terms of the opportunity to give relief through employment than in the value of the objective. Three and a half million dollars is a lot of money. One has the feeling that there are many ways of spending that money in health work or even in more highly concentrated surveys which would give greater returns, dollar for dollar.

HIGH SCHOOLS DEBATE

RESOLVED: That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense.

This is the subject chosen for this year's debate in high schools and colleges by the representatives of the cooperating members of the National University Extension Association.

For several years now we have been conscious of an effort, apparently stimulated by some outside source, looking towards the discussion of this particular subject. You may remember the effort made some years ago to bring this subject into the Detroit schools. We were convinced at that time that it was a definite propagandist effort, and, while we felt that such a subject was perfectly suitable for a college debating society, we did not feel that the high school student was sufficiently far along in his intellectual development to adequately undertake such a complicated sociological study. However, since the National Association has finally decided to sponsor this subject it is distinctly our responsibility to see that adequate material for the study of the proposition from the standpoint of the profession be presented to the prospective debaters.

The Bureau of Economics of the American Medical Association has prepared an article on the negative argument, and this article will appear in the official Hand Book of the National University Extension Association. Your secretary has had many requests for material from various parts of the country. The writers have been referred to the American Medical Association, which

has made available for free distribution to debaters many publications of the Bureau of Medical Economics. With so much being written on this subject in popular magazines, and the voluminous material published by the Committee on the Costs of Medical Care, much of which is specious, but to the superficial or untrained student quite plausible, it is perhaps well that this debate be presented. We agree with *Minnesota Medicine* (September, 1935), which says:

"Unfortunately the affirmative in this case is quite likely to make an appeal to young debaters who are full of humanitarian ideals without any experience in life whatever. It is obviously the duty of organized medicine, which has taken its stand as opposed to the 'Provision of Medical Care for all the People at Public Expense,' to provide the best possible material for the assistance of those who will defend the negative in this proposition."

"HEADLINES AND COMMENTS"

Headlines—"UNCLE SAM TAKES DOORBELL CENSUS"—(By Associated Press)—Washington, Aug. 28.—Uncle Sam will start ringing 750,000 doorbells Oct. 15 to ask the family, "How's your health?" As announced by the U. S. Public Health Service, in July, this work is set forth to be a survey of health conditions with special reference to chronic diseases and physical impairments. Obviously, any such inquiry should take account of mental states which result from unemployment and unhappy economic conditions. The survey will be conducted by 6,000 white collar workers, selected from relief rolls. The funds, \$3,450,000, are to come from Federal Employment allotments. It is admitted that information thus obtained in widely separated cities, will exceed in scope anything heretofore attempted, and, if conducted by trained personnel adequately supervised by medical men, might yield information from which certain conclusions may be drawn. The Committee has not been informed as to whether the U. S. Public Health Service will have sufficient personnel to adequately supervise this work, or if it will ask the coöperation of local medical societies in directing the study. If given over to lay groups without medical direction, the influence of possible personal bias and the use of investigators whose principal qualification may be that of being unemployed would materially color the data. Lack of medical experience, and the acceptance of statements from individuals interviewed, without an opportunity to check their validity from other sources, would make the results of little value. Instead of helpful information, the profession may again be forced to combat a fog of misinformation and harmful propaganda arising therefrom.

Headlines—"INSURANCE FOR HEALTH STUDIED"—Next Congress May Get Federal Plan.—(Copyright 1935 by United Press.)—Washington, Aug. 29.—A broad program of health insurance to round out the administration's sweeping social security system is being studied with a view to congressional action next session."

"The social security act, designed to safeguard 25,000,000 working Americans against old age destitution and unemployment, failed to make provision for economic protection against sickness."

"One reason was the controversial character of proposed plans by which the ill worker could get medical treatment on a low cost federally aided basis in return for a yearly contribution from his wages. Medical societies in many instances have charged it would 'regiment' the profession."

"A more detailed study of the problem is now being made by administration figures." Upon what basis this "study of the problem" is being made was not stated.

Federal agencies are carrying on "sampling investigations" in various states, and with state authorities are preparing for further activities in compliance with the National Security Act. National lay groups, interested in the control of certain diseases, are said to be planning greater activity on the basis of information to be obtained. Local lay groups have been stimulated to greater activity along health lines, apparently for the purpose of insuring participation by the states to the maximum of federal allotment.

Individuals who have not had any illness and have not had any health examination are included, in some statistics advanced, among those reported as not having had needed medical care. Although need of adequate health service to prevent illness was advanced as a basis upon which sickness insurance was established in European countries, morbidity and mortality statistics and incidence of preventable disease do not reflect any superior state of public health as compared to America. There is much to suggest that many of those who did not have any medical care did not wish it, and that the major portion of the remaining number did not believe it necessary. It is not proven that any large portion of this group were unable to obtain such service because of inability to pay. Where such periodic health examinations are advanced as an argument for new systems, it would be well for the medical profession to emphasize to the public that not only has it advised periodic health examinations, but that it is ready to make such examinations as public welfare requires and that no need exists for the establishment of a public agency for that purpose. Personal interest is necessary in periodic health examinations if the patient is to have guidance in his intimate problems. Mass examinations lack this, and possess the potentialities of enlarged objectionable sickness insurance machinery.

SELF SURVEY

It must be recognized that medical service will, during the coming winter, be surveyed from the most critical and in some instances unsympathetic viewpoint. Statistical and quasi-statistical information will be forthcoming. It would therefore seem wise that the respective state associations give attention to the status of medical service and the facilities and quality of medical care offered, in order that ill-judged conclusions may be successfully controverted. Programs for the coming winter are being prepared in local societies and at least one state is already giving consideration to a state-wide program emphasizing special investigation and concentrated study of the problem of early

diagnosis and early treatment of some of the principal causes of death.

The weakest medical units, be they individuals or organizations, may determine the pattern of reaction entertained by the lay public toward physicians. It will be said of them, that they are stubborn and selfish—past years of unselfish service will meet that accusation. The profession may well be proud of its background of brilliant achievement, and there must be no basis developed, upon which it may be charged that the level of medical service offered to the average man is below desirable standards by reason of negligence or incompetence of medical men.

Committee on Legislative Activities
of the American Medical Association.

ON REGIMENTATION AND BUREAUCRACY

Dr. Alfred P. Sloan, Jr., commenting on the Supreme Court decision anent the NRA, said, among other things: "Sooner or later we are bound to recognize that regimentation and bureaucracy have no part in our national economy. They can only produce one result—lowered efficiency, increased costs, and reduced standard of living." And that goes double for any attempt to socialize medicine or to regiment the profession in a compulsory health insurance scheme.

Senator William E. Borah says:

"With bureaus or departments, the appetite increases with what it feeds upon. It is well to remember that the taxpayer is the same for the state taxes as for the Federal Government. It makes little difference whether one government, the state or the federal, imposes the tax. There is only one people to take care of both taxes. We should not expend a dollar, nor impose a single item of expense upon the people of this country until relief from taxes is in sight."

Attorney General Crim says: "The Department of Justice is staggering under the load imposed by sumptuary and police laws—laws that within all common sense fall within the natural sphere of local governments. Unless there is a halt in this tendency to saddle all responsibilities on the Federal Government, the time will come when we will have in Washington, a bureaucracy knowing no master—and one day the country will be in ruins."

Charles Evans Hughes, when he was Secretary of State, told the members of the American Law Institute in convention at Washington:

"We have in this country the greatest law factory the world has ever known. Forty-eight states and the Federal Government are turning out each year thousands of new laws while at the same time the courts in the performance of judicial duty are giving us thousands of precedents—175,000 pages of decisions in a single year, an average of 12,000 or more statutes every year, and an annual average of 13,000 or more permanently recorded decisions of highest courts."

The danger which every republic should fear is over-centralization, with the subsequent substitution or domination by one man for the rule of the people. Germany is the historic symbol of absolutism.

We have recently concluded a war, undertaken, we are told, that democracy might not perish from the earth. If this is true, to attempt to centralize in Washington the management of affairs that belong rightfully to the respective states is to create a system that cannot but destroy democracy among our people by betrayal of principles which are the fundamentals for the maintenance of government.

The centralization of power, whether in industry, commerce, education or the trades or professions or other factors entering into affairs of our everyday life amounts to this: that if we grant to an individual the power to make standard or be the sole authority to revise, abolish, or fix conditions under which the people of the future have to live, work and be educated, we set up an oligarchy which will create and foster bolshevism.—From *Illinois Medical Journal*, Sept., 1935.

PRESENT STATUS OF THE CARE OF AFFLICTED CHILDREN IN MICHIGAN*

Afflicted Children's Act

Act No. 274 of 1913

As amended by

Public Laws of 1933 No. 248

Public Laws of 1934 No. 5

Public Laws of 1935 No. 94

Public Laws of 1935 No. 208

Section 1.—Whenever any agent of the State Welfare Commission, a supervisor, superintendent of the poor, or physician, shall find within his county any child below the age of twenty-one years who is afflicted with a malady which can be remedied, or is pregnant, and whose parents or guardians are unable to provide proper care and treatment, it shall be the duty of such agent, supervisor, superintendent of the poor, or physician to make a report of such condition to the probate judge of the county in which such child resides. Upon the filing of such a report with the judge of probate, he may make such investigation and examination as he may deem necessary.

Section 2.—If upon investigation the Judge of Probate is satisfied that such child is an afflicted child as defined in this Act and that the parents or guardians are unable to provide proper medical or surgical treatment, and the physician appointed to make the examination shall certify that, in his opinion, the malady is of such a nature that it can be remedied, the Judge of Probate may enter an order directing that said child be conveyed to any approved hospital in the State, for treatment, when such approved hospital is equipped and staffed to give proper treatment. Provided, That no such afflicted child shall be sent to or received into such hospital unless, in the judgment of the physician in charge thereof, there is a reasonable chance for him to be benefited by the proposed medical or surgical treatment, and for this purpose a complete history of the case shall be furnished by the examining physician. Provided further, That no crippled child as defined in Act No. 236 of 1927 shall be committed to any hospital under this Act, and that copies of all court orders be mailed by the court at once to the State of Michigan under the provision of Rules and Regulations provided for in this Act.

Section 2.— (a) *Provided further, that no child shall be committed to any hospital for medical or*

*This report was prepared by a sub-committee of the Committee on Medical Economics at the request of President Smith and the Executive Committee. It was sent to each member of the House of Delegates but was not made a part of the report of the Committee on Medical Economics before the House. It will answer the many questions which are in the minds of members of the profession.—EDITOR.

surgical treatment under this act until the parents or guardian of said child have entered into an agreement with the auditor general of the state of Michigan to the effect that they will repay the state of Michigan for the actual cost of such medical or surgical treatment on such terms as shall meet the approval of the Probate Judge. Said Auditor General shall furnish all blanks necessary for such agreement.

Section 3.—It shall be the duty of the Superintendent of said hospital upon receiving such child to provide a cot bed or room in the hospital and assign or designate the clinic of the hospital to which the patient shall be assigned for the treatment of the malady in each particular case, the care and treatment of such child and the physician or surgeon in charge shall proceed with all proper speed to perform such operation and bestow such treatment upon such child as in his judgment shall be proper.

Section 4.—No compensation shall be charged or allowed to the admitting physician or any physician, surgeon, or nurse who shall attend or treat any such child at the State University Hospital other than the salary or compensation paid to such person by the State University Hospital; provided, however, that reasonable compensation to be fixed, and audited by the state, and paid through the hospital as hereinafter provided, may be allowed to any physician or surgeon treating any such child at any such hospital other than the State University Hospital at Ann Arbor, Michigan; provided further, that the cost of transportation of such child to and from such hospital or the State University Hospital shall be paid by the county in which such child resides, and it shall be the duty of the County Treasurer to pay such transportation expense out of the general fund of the county upon receipt of the proper certificate of approval thereof from the Probate Court.

This act is ordered to take immediate effect.

Section 5.—The superintendent of the hospital shall keep a correct account of the costs of professional services, medicines, food and necessities furnished to said child, and shall make and file with the Auditor General an affidavit containing an itemized statement so far as possible such costs incurred at the said hospital in the treatment, nursing and care of said child in accordance with the rates fixed by the Auditor General.

Section 6.—Upon filing said affidavit with the Auditor General, it shall be the duty of said Auditor General forthwith to draw an order on the treasurer of the State of Michigan for the amount of such expenditure, and forward the same to such hospital, Provided, That no crippled child as defined in Act 236 of 1927 shall be entitled to free care to be paid for by the State under this Act.

Section 7.—The Michigan Crippled Children Commission shall have power, hereby conferred, in co-operation with the Michigan Legislative Council and the State Administrative Board, to administer this Act, and to adopt Rules and Regulations to carry out its provisions, if and when funds for that purpose have been made available to the Commission by the Legislature, the Legislative Council, or the State Finance Committee. It shall fix a reasonable schedule of compensation to be paid to any such hospital, physician or surgeon, approved to care for such committed children, for their maintenance, care and treatment and for their transportation to and from said Hospital, provided that no person in the employ of the State or any County shall be allowed any fee other than that provided by law, for such transportation in addition to actual traveling expense. All claims for compensation shall be itemized for each child and rendered monthly under oath to the Auditor General. When such claims are audited

and found to be correct they shall be paid out of the general fund of the State.

(Prepared by Michigan Crippled Children Commission, June 11, 1935.)

Historical Background

In 1881 the Michigan Legislature first provided for medical and surgical treatment and hospitalization of "dependent persons" free of charge at the University Hospital. In 1897 this policy was specifically extended to include children with birth deformities. Ten years later power was given to Probate Courts, "when the health or condition of the child shall require it" to place such child "in a public hospital or in an institution for special care or treatment" at county expense. Later, in Act 137 of 1921, the same courts were authorized to refer children to any "institution or hospital" with which the county board of supervisors may have contracted for service of this kind to be paid for from the general county fund.

The Afflicted Child Act of 1913 provided free treatment at State expense for deformed or afflicted children at the State University Hospital, when assigned there by order of the Probate Court. Portions of this act were repealed in 1927, especially those relating to the care of crippled children because the Crippled Children's Act was enacted in this year. However, many probate judges did not comply with the repeal section in the new act and continued to send crippled children to the University Hospital under the Afflicted Children's Act.

As amended by Act 248 of 1933, courts were authorized to order children into any approved hospital in the state. It also reduced the age limit from 21 to 18 years but the 21 year age was restored in 1934. Most important provision of the 1933 amendment was the delegation of responsibility to the Crippled Children Commission to carry out the provisions of the Afflicted Children's Act. Thus overnight, the Crippled Children Commission changed from a \$6,400.00 per year bureau, concerning itself with crippled children only, admitted to but one hospital, to a governmental agency controlling admissions to 78 hospitals and handling funds totalling over 2 million a year.

However, the 1933 act did not define "afflicted child," nor "crippled child" nor "approved hospital." And there were contradictions in its wording. Section 4 stated that fees for physicians or surgeons "shall be paid by the county," while in Section 7 it was provided that statements shall be rendered to the Auditor General and paid "out of the general fund of the State." Again, Section 5 provides that costs accounting shall be in accordance with "rates fixed by the Auditor General," but Section 7 provides that the "Michigan Crippled Children Commission shall fix a reasonable schedule of compensation."

These conflicts were compromised by the conference with the Auditor General and a plan of administrative procedure was written in "Rules and Regulations" and a "Fee and Rate Schedule" was adopted. In these the Commission defined "afflicted" and "crippled" children and "approved" hospitals. The fee schedule was worked out by the Commission and the Auditor General and two employees of the Commission are assigned to the office of the Auditor General. All costs are audited and paid out of the general fund of the State but the charges enumerated in Section 4 of the Act (transportation and physicians fees) are then allocated and recharged to the respective counties by the Auditor General.

The Commission divided hospitals into two groups in considering their applications for approval. All

those previously accredited by the American College of Surgeons were in the first, and all others in the second grouping. The first group were approved without any further investigation if physicians' and surgeons' fees were waived. If not, an agreement to repay the State for such fees was required with signatures of proper representatives of the hospital, the Probate Court and the County Board of Supervisors. The same procedure was used in the second grouping and in addition there was required the advanced approval of the County Medical Society and a statement signed by the County Medical Society showing what types of maladies in its judgment the hospital was equipped to efficiently and properly treat.

(Adapted from the Report of the Crippled Children Commission, Afflicted Children Division, December, 1934.)

The Point of View of the Medical Profession

In any statistical study of medical and hospital care the physician plays an inanimate and inarticulate rôle. It is necessary for the reader of such a report to remind himself that the work represented by the figures was done by individual physicians and surgeons; that hospitals provide facilities—material, nursing, dietary, laboratory—but the medical care is rendered by medical men. To emphasize this point of view carries no implication of desired change in the tabulation of reports by the Crippled Children Commission. It is stated here because it is the point of view from which the doctor interprets those reports.

For the fiscal year 1933-1934,[†] as recorded in the report of the Crippled Children Commission, Afflicted Children Division, the following numerical facts are found of special interest:

1. Thirty-seven hospitals in twenty-eight counties had arrangements (which varied within wide limits) with local authorities permitting the Auditor General to pay physicians' and surgeons' fees and charge the amount paid back to the respective counties.
2. Forty hospitals in twenty-one counties had no such arrangement. Eleven of these are in Detroit. (Subsequently a similar arrangement was made in Wayne County.)
3. Where professional fees were allowed \$25,303.41 was paid to physicians of 1,138 children, an average of \$22.23 per case.
4. Professional fees were not allowed in the care of 3,068 children. At the rate of \$22.23 per case this would have amounted to \$68,201.64.
5. The Crippled Children Commission report that fees paid to orthopedists under Act 236 average \$32.04 per case, for the period 1932-1934.
6. At the University Hospital the per diem cost was a few cents less than the average throughout the state but the patient days were considerably more so that the average cost per case was \$63.97 at the University Hospital as compared with an average of \$55.85 in hospitals throughout the state.

The Present Status

The Crippled Children Commission was established by legislative enactment in 1927, in response to a public demand concentrated especially in the Crippled Children's Society. This Society numbers about 1,200 members, many of whom are physicians. When, in 1933, the administration of the Afflicted Children's Act was placed in the hands of the Crippled Children Commission, the load on this organization was greatly increased. Whereas before the passage of the amendment in 1933, about 5,000 crippled children were handled through the Commission, there are now upwards of 20,000 crippled and afflicted both. A sufficient appropriation has never been voted to the Crippled Children Commission to adequately perform its augmented tasks. Large deficits have been incurred yearly and yet the staff is

not large enough to efficiently handle the increased load.

It should in fairness be stated that the Legislature in 1933 had no experience upon which to base an adequate appropriation. The regular appropriation made in 1933 was \$800,000.00 for the fiscal year 1933-34. For that same year the Commission spent \$1,300,000.00 in the administration of the two acts. This necessitated a deficiency appropriation of \$500,000.00. Of the total spent, about \$561,000.00 went for the care of Afflicted Children. For the year 1934-1935, \$1,365,000.00 has already been appropriated, \$800,000.00 as the regular appropriation and deficiency bills totaling \$565,000.00 were voted during two special sessions and it is estimated that there will still be a deficit of about \$200,000.00 up to June 30, of this year. The legislature of 1933 made a deficiency appropriation of approximately \$950,000.00 to the general fund, designated for the medical care of children, which, it was understood, was owing to the University Hospital for care under both acts for previous years.

Act 248 of 1933, an amendment of the Afflicted Child Act, provided for payment of physicians' and surgeons' fees by the county of residence of the child, payment to be made by the Auditor General and charged back to the county if the local Board of Supervisors had agreed to accept such charges. The present Act, No. 94, of 1935, provides for reasonable compensation to physicians to be paid by the State "if and when funds for that purpose have been made available to the Commission by the Legislature, the Legislative Council, or the State Finance Committee." Under Act 248 of 1933, the State paid 75 per cent of the cost of transportation of such children to and from approved hospitals, and the county paid 25 per cent; under the new Act the County pays 100 per cent of the transportation costs.

Act 103 of 1935, another amendment of the original Act 274 of 1913, provides that no child shall be committed for care until the parents or guardians shall have entered into an agreement to repay the costs of such commitment.

The appropriation for the year 1935-1936 is \$1,400,000.00, less 5 per cent, a cut imposed by the Governor, or \$1,330,000.00. Subtracting the estimated deficit of \$200,000.00, there will remain for 1935-1936, a working fund of \$1,130,000.00, and for 1936-1937, \$1,330,000.00.

Since the new bill carried no appropriation, the Crippled Children Commission proposed by resolution to ask the legislature for an additional appropriation of one million dollars, which sum was suggested by the Auditor General's Office, to cover the cost of the "reasonable compensation" to be paid to physicians as provided in the new bill. The Legislative Committee of the Michigan State Medical Society was asked to come before the Crippled Children Commission at its May meeting, at which time Mr. Wm. J. Lambert also made his appearance on behalf of an interested group of physicians of the state. At that time the Crippled Children Commission was persuaded to withdraw its proposed resolution asking for an increased appropriation, as necessitated by the provisions of the new bill. The Legislative Committee felt that the request for more money would prevent the passage of the bill as drawn and that physicians would take their chances on getting their money for the time being if only the principle of remuneration for services rendered could be established. The Commission expressed itself as anxious to coöperate with the profession in every way possible and withdrew its resolution.

Following the passage of the bill, but before it was signed by the Governor, the Legislative Committee was informed that the Governor expected the medical profession to stay within the limits of the appropriation. Fearing a possible veto the Commit-

[†]Reports for 1934-1935 not available at this time.

tee then unanimously passed and signed a resolution as the sense of the Legislative Committee of the Michigan State Medical Society giving approval of Schedule A as adopted by the Commission June 4, 1934, but recommending a reduction, in lieu of sufficient funds, up to 50 per cent of that schedule.

Following the signing of the enactment several meetings were held with the Auditor General and with a committee from the Council of the Michigan State Medical Society and the Crippled Children Commission. The Committee from the Council was appointed by Chairman Powers as observers without power to act. No further recommendations or conclusions have been arrived at. Confusion has been added by the contention that expenditures of funds for crippled children are illegal because appropriations have been made only under the old Afflicted Child Act. This has caused grave concern to the officers of the Crippled Children Society apprehensive lest their program developed through many years shall break down through lack of specific appropriation for the crippled child.

It is stated that the Governor intends to call together the Executive Committee of the Michigan State Medical Society and others in an attempt to work out a harmonious solution to this perplexing problem. In the meantime the Commission has funds at its disposal to pay only for hospitalization and administrative expense in the care of the afflicted child and it is questionable at this time if the amount will be sufficient even for these items, let alone the remuneration of the physician.

Your committee recommends that this Society view with approval the recognition, in a legislative enactment in this State, of the principle of payment to physicians for services rendered, and, in view of this recognition, and inasmuch as the Michigan Crippled Children Commission has demonstrated its willingness and desire to coöperate with the physicians of the state, your committee feels that this Society should likewise provide coöperation during the next two years to the fullest extent necessary.

Your committee further recommends that the Crippled Children Commission be asked to consider the qualifications of surgeons, other than those classified as orthopedists, in the assignment of certain types of cases under the Crippled Child Act. It would seem justifiable to assume that there are more than eleven men in Michigan qualified to care for cases of osteomyelitis, most fractures, and dislocations, of arthritis and to do amputations or other operations in cases of bone tumors.

WOMAN'S AUXILIARY

MRS. F. T. ANDREWS, President, Kalamazoo.
MRS. F. M. DOYLE, Secretary, Kalamazoo.

THE ATLANTIC CITY NATIONAL CONVENTION

The Thirteenth National Convention of the Woman's Auxiliary to the American Medical Association was held at Atlantic City, June 9 to 14, 1935. You really have to attend a National Convention to understand the thrill and gain the inspiration.

On Sunday evening, June 9, the Woman's Auxiliary to the Medical Society of Delaware gave a supper to the National Board at the Claridge Hotel in honor of Mrs. Robert W. Tomlinson, National President.

On Monday, June 10, the General Convention Committee meeting was held: 11:00 a. m., Pre-Convention Board meeting, Mrs. Tomlinson presiding; 1:00 p. m., buffet luncheon, Submarine Grill, Traymore Hotel; 2:30 p. m., Pre-Convention Board meeting at the Traymore Hotel, Mrs. Robert Tomlinson presiding. At 7:00 p. m., get-together dinner

was given at the Ritz-Carlton Hotel. Wilmer Krusen, M.D., Philadelphia, spoke on "The Doctor's Wife." Address of welcome was made by Mrs. Arthur Casselman, past president of the Woman's Auxiliary of the New Jersey State Medical Society. Artists participating in this program were: William Evans, distinguished American baritone; Maurice Braum, violinist; Joseph Vetere, cellist; Clarence Fuhrman, pianist. Arrangements were made by Camden and Union Counties.

On Tuesday, June 11, at 8:00 a. m., a southern breakfast was served in the Submarine Grill, Traymore Hotel. Guests of honor were: Mrs. Robert W. Tomlinson, Mrs. Rogers N. Herbert. Arrangements were made by Women's Auxiliary to the Southern Medical Association. 9:00 a. m., General Meeting, Library Room, Traymore Hotel, Mrs. Robert Tomlinson, presiding. Invocation, Henry Merle Mellen. Address of Welcome, Mrs. James Hunter, New Jersey. Response, Mrs. William Salasin, Atlantic City, New Jersey. She reported 1,800 members, 514 guests, one guest from England. Report of committee of credentials and registration, Mrs. H. Roy Van Ess, Newark, New Jersey. Roll call of state auxiliaries, Mrs. Elmer T. Whitney, Michigan, recording secretary. Minutes of the Twelfth Annual Meeting. President's report, Mrs. Robert Tomlinson, followed by reports of National officers and standing committeemen. 1:00 p. m., Hackney's famous sea-food luncheon, entertainment and musical program. Choice of chair ride on the Board Walk, sailboat ride, or sight-seeing trip. 4:00 p. m., musical and tea, Woman's Auxiliary of Philadelphia County Medical Society. Miriam E. Barbash Ensemble, Danse, Blanch Deutsch; baritone, Malcolm Bowen; Instrumental Trio, violinist Miriam E. Barbash, 'cellist, Marie Hollenbach, pianist, Gertrude Kirsteen. 8:00 p. m. Opening of General Meeting of Eighty-sixth Annual Session of American Medical Association. Within the main auditorium has been constructed the largest stage in the world, 110 feet in width, 85 feet in depth. The largest pipe organ in the world, both in size and power, is housed in the main auditorium. The lighting of Convention Hall is a triumph of light and illumination. The hues of the sea and sky predominate through the medium of an original principle, the lighting of the stage and auditorium have been designed to permit not only the usual projections and special display of featured objects, but also an unlimited showing of color effects. The program was as follows: Music, William Jackson, Convention Organist. Call to order by the President, Walter Bierring. Invocation, Rev. Walter Bruggeman, Community Church. Welcome to Atlantic City, Hon. Harry Bacharach, Mayor of Atlantic City, C. Coulter Charlton, President of Atlantic County Medical Society, Marcus W. Newcomb, President of Medical Society of New Jersey. Announcements, William J. Carrington, Chairman of Local Committee on Arrangements. Address, Hon. Walter Edge, Ex-Senator and former ambassador. Vocal selections, Harry Prosser, Welsh tenor. Introduction and installation of President-elect, James S. McLester, Birmingham, Alabama. Address, "The Breath of Life," J. C. Maekins, President of Canadian Medical Association. Address, "Nutrition and Future Man," James S. McLester, president of American Medical Association. Presentation of Medal to retiring President, Walter L. Bierring, J. H. J. Upham, Chairman of the Board of Trustees. Vocal selections, Westminster Chorus, Princeton, N. J.

Wednesday, June 12, 1935, 9:00 a. m., general meeting, Library Room, Traymore Hotel, Mrs. Tomlinson, presiding. Reading of minutes of previous meeting. Reports of state presidents, three minutes to each.

This was the high spot of the convention as regards the year's endeavors; it is the time when the

spotlight directs its rays on the year's accomplishments. Through the pioneering years of our national organization, states have been crying for something tangible, something definite, something comprehensible to anchor to. The National officers have been struggling to formulate programs of health education to fit the needs of all. Our object: (1) to assist in the entertainment of all American Medical Associations' Convention. (2) To extend the aims of the medical profession to all organizations which look to the advancement of health and education. (3) To promote acquaintanceship among physicians' families that fellowship may increase. (4) To do such work as may be approved from time to time by the American Medical Association cannot fail to inspire the earnest coöperation.

I was very proud to tell of the self-education program carried out by Wayne County, Grand Rapids, with her fine, peppy group, crying for information. Jackson, under able leadership, having enlightening lectures. Saginaw, a course of talks by Board of Health Director. Bay City, with a large social group ready to swing into action. Calhoun bringing in Michigan second to Wisconsin on Hygeia. It would have been most gratifying to you, Calhoun, to have seen the pleased expression on the face of our former State President and National Recording Secretary, Mrs. Elmer Whitney, when the fact was brought out in the National Treasurer's Report. With much pride did I present the facts that my own Kalamazoo raised \$350 to purchase a radio-ear, thus bringing music and the sound of their own voices to the totally deaf. I am not forgetting the smaller groups that surprised me with the high type of selection for study.

These reports were most inspiring and interesting to note the wide variety of needs which arise in different localities.

Wisconsin made a real name for herself, first, gaining the greatest number of *Hygeia* subscribers, raising most of the money by rummage sales, and, second, made a great step forward when they won their fight against radio advertising of patent medicine and quackery.

12:30 p. m., reception and luncheon, speaker, Leonard George Rowntree, M.D., Director of Philadelphia Institute of Medical Research. Greetings, Walter J. Bierring, M.D., President A. M. A.; James S. McLester, M.D., president-elect of A. M. A.; Austin A. Hayden, M.D., Member of Advisory Council.

7:00 p. m., entertainment, evening at the Steel Pier, and various amusements.

Thursday, June 13, 1935, 9:00 a. m., group discussions.

10:00 a. m., Post-Convention Board Meeting, Mrs. Rogers M. Herbert, presiding.

12:00 p. m., luncheon at the Ritz-Carlton, followed by style show and bridge party.

7:00 p. m., "Bring-your-husband" dinner. Entertainment by Felix Restivo, accordionist.

9:00 p. m., presidents reception and ball, the Renaissance Room, Ambassador Hotel.

Friday, June 14, 1935, the day was given over to golf, luncheon and a de luxe tour, most enjoyable for those who were there to take it.

Much credit must be given to Mrs. Robert W. Tomlinson, President; Mrs. Samuel S. Salasin, General Chairman of Arrangements; Mrs. Carl Surran, Chairman of Entertainment; Mrs. James H. Mason III, Treasurer, and Mrs. David B. Allman, Printing and Program.

Respectfully submitted,
Mrs. F. T. Andrews, *President*.

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Dr.P.H., Commissioner
LANSING, MICHIGAN

A Communicable Disease Summary

The outstanding development in communicable disease incidence for the first six months of 1935 has been the increase in cases of pneumonia. There has recently been a very definite rise in this disease. In 1934, cases reported were 20 per cent higher than in 1933. For the first six months of 1935 there was a gain of approximately 30 per cent over the same period in 1934. This is sufficient to be highly significant. There has been no apparent epidemic of upper respiratory diseases to account for it, and while pneumonia is never fully reported, there is no reason to think that reporting is either better or worse than usual.

Typhoid fever cases for the first six months of 1935 decreased 20 per cent compared to those reported for the same period in 1934. Diphtheria dropped about 22 per cent. Whooping cough decreased 8 per cent. An even more unusual decline was that in scarlet fever. Cases of this disease were 45 per cent below those of 1934. Measles continues its downward trend after reaching the highest peak in the history of the state.

Antimeningococcic Serum

The Michigan Department of Health announces that therapeutic doses of antimeningococcic serum are available to any physician on request. The new product will be handled by the regular distributors of biologics manufactured by the Department. The antimeningococcic serum is put up in vials of 20 c.c. each. The usual case requires several vials.

State Board of Embalmers

The members of the State Board of Embalmers and Funeral Directors which was created by act of the last legislature have been appointed by Dr. C. C. Slemons, State Health Commissioner. The chairman is Raymond A. Brown of Greenville. The other members are: Edgar C. Marshall, Detroit; Charles E. Marsh, Albion; Benjamin G. Bennett, Benzonia; Anthony Wujek, Detroit.

Frank J. Pienta, Director of the Bureau of Embalming of the Michigan Department of Health, is secretary of the new Board. The Board will have general supervision of all emblaming practice in the State, conducting examinations, issuing and revoking licenses, and inspecting funeral directing establishments. It will work in conjunction with the Michigan Department of Health.

Calhoun County Health Department

Announcement has been made of the establishment on September 1 of the Calhoun County Health Department. The W. K. Kellogg Foundation is one of the sponsoring agencies. M. R. Kinde, M.D., is director. Organization of the new department brings the total of counties maintaining full-time public health service up to thirty-nine.

Dr. R. B. Harkness, who has been Acting Director of the Eaton County Health Department during the leave of absence of Dr. Davis, assumed direction of the Barry County Health Department on September 1.

Dr. T. E. Gibson became director of the Genesee County Department on July 15, taking the position

left vacant when Dr. L. A. Lambert resigned to accept the position of health officer of Flint.

Dr. F. R. Towne, health officer of Jackson, was appointed director of the Isabella County Health Department to fill the vacancy left by Dr. Gibson. He took up his new duties on July 15.

Child Hygiene Notes

Women's classes are being held in Isabella county by Dr. Ida N. Alexander and in Houghton and Baraga counties by Dr. Ruth Stocking.

Infant welfare programs are being carried on in Ingham county by Bertha Cooper, R.N., in Gratiot county by Julia Clock, R.N., and in Ontonagon county by Annette Fox, R.N.

Martha Giltner, R.N., completed a six months' prenatal nursing service in Shiawassee county July 15, and began a similar service in Cheboygan county July 17.

Bertha Groth, R.N., is carrying on a combined prenatal and infant welfare program in Wayne village and Nankin township.

OBITUARY

David Trumbull Smith

1881-1935

Doctor D. T. Smith, of Omer, died of a heart attack September 8, 1935. He was born in Ontario, Canada, in 1881, and graduated from the Detroit College of Medicine in 1903, and began practice in Omer in the same year. He served his community and surrounding counties continuously until the time of his death. He founded the Smith Hospital at Omer in 1924.

In 1911 he was married to Winifred Hayes of Omer. Dr. Smith was elected Mayor of Omer in 1907 and again in 1925. He was always interested in his community and was proud to be associated with its people. He was respected for his long and faithful service. At one time he was the president of the Bay County Medical Society.

Dr. Smith is survived by his widow, three sisters and four brothers.

Dr. Charles V. High

Charles V. High, Sr., was born at Tilsonburg, Simco County, Ontario, May 29, 1866, and died at his home in Midland, on June 15, 1935, aged sixty-nine years. He was the son of Mr. and Mrs. John Henry High. He came to the United States from Canada when he was four years of age and spent his early years in Ohio.

Dr. High, Sr., graduated from the Starling Medical College, Columbus, Ohio, which later became the Ohio State University, in 1888. He began his practice at Morley, Michigan, and on July 6, 1889, he was married to Miss Florence E. Sams of that place. In the following year he moved to St. Joseph, Missouri, where he practiced four years. He then attended Yale University for one year following which he returned to Michigan and located at Coleman in 1895, where he continued to practice until 1930, when he moved to Midland and joined his son, Dr. C. V. High, Jr. in the practice of his profession. He was one of the best known physicians in the county, having practiced here for forty years.

During his professional career, he took post graduate courses at the University of Michigan,

the University of Chicago and at the Mayo Clinic at Rochester, Minnesota.

During the World War Dr. High entered the Medical corps of the U. S. Army. He was commissioned a captain and after preliminary training at Fort Riley, Kansas, he left for overseas on May 1, 1918. He served at Camp Hospital 14 and later was transferred to Company 11 of the 4th Regiment. He was mustered out of service August 11, 1919, after serving 18 months, 13 months of which was overseas.

Dr. High, Sr. was a member of the Midland County Medical Society and on several occasions he served as president of the society. He was also a member of the Michigan State Medical Society and always actively interested in the welfare of the profession. He was an active member of the American Legion and was at one time medical examiner for Midland County for the Veterans Bureau.

Besides his wife, Mrs. Florence High, one son, Dr. C. V. High, Jr., of Midland; his mother, Mrs. J. S. Duffie, and a sister, Mrs. James O'Rourke, of Richmond, Michigan; and a brother, Dr. Floyd High, veterinary surgeon, of Coleman, Michigan, survive.

Dr. High was buried in Coleman, Michigan, where he had practiced for thirty-five years. As a tribute to his long and valuable services rendered in that community, the citizens of Coleman are having a memorial tablet placed on his grave.

CORRESPONDENCE

AFFAIRS IN CALIFORNIA

*Editor Journal of
Michigan State Medical Society:*

You have requested me to send to you some observations regarding medico-economic conditions on the Pacific Coast. That is a wholesale request; however, I am jotting down, this evening, in paragraph form, impressions gained in a recent trip from San Diego to Seattle, Washington, a mere journey covering some 1,100 miles of coast line.

Unless one has been more than a tourist, hurriedly journeying along, a true insight of the vastness of this coast, its people, their background, natural resources, industry, social and political life, will be wanting. There are many who fail to understand that which transpires or has transpired because of a very palpable lack of first hand knowledge of facts and conditions—and still they have apparently no hesitancy in forming and expressing opinions as well as criticisms that are valueless.

A residency of some eleven months during which I have concentrated my activities in order to become better oriented and with many journeys covering over 7,500 miles, as well as through visits of several days each in different localities, I find that I am beginning to gain an insight into a few of the existing conditions. I shall endeavor to impart some of these observations.

California has a population of some six and a quarter million people and the state embraces 158,297 square miles. It has two ranges of mountains—the Coast Range borders the coast and is from 20 to 40 miles wide with elevations varying from 2,000 to 8,000 feet. To the east are the higher and grander Sierras. To the north, between these two mountain ranges, is the Sacramento River and Valley and to the south extends the San Joaquin Valley. One must see and take time to see in order to appreciate the vastness and the topography of California. A smaller range of mountains divides the state into northern and southern portions. There

are some 11,500 licensed physicians in the state. In addition, in 1934 there were about 1,500 osteopaths, and 3,500 chiropractors, as well as a miscellaneous horde of naturopaths, herbalists and mongrel types. Some 40 per cent of all practitioners are doctors of medicine in Los Angeles. There is a state average of one doctor of medicine to 652 persons. In metropolitan areas it runs as low as one to 551. In 1933 and 1934 seventy-five per cent of the practicing physicians earned less than \$5,000, fifty per cent less than \$3,000. A state-wide survey made in 1934-35, and for which the California Medical Association spent \$36,000 of its own funds in addition to some \$55,000 expended by the SERA, has compiled an interesting series of data. The printed report will be available in the near future.

Almost 6,000 of the 11,500 licensed physicians are members of the California Medical Association. Of the remainder, some have retired, others are associated with the teaching staffs of the four medical colleges or state institutions and there is the common per cent of ineligible and disinterested.

The following state laws govern the practice of medicine: (1) Doctors of Medicine, (2) Licensed Osteopathic Physicians and Surgeons, (3) Osteopaths, (4) Chiropractors, (5) Naturopaths. It is said that there are a million or more Christian Scientists.

Since 1917 the question of some form of health insurance has been the subject of lay and legislative discussion and has been agitated to the present day. It has received legislative consideration and the 1935 legislature created two committees that are to report upon health insurance legislation in the 1937 session. The Chairman of our Council made a very lucid explanation of our Association's attitude to the House of Delegates of the American Medical Association at its 1935 session. This statement has been printed in our official publication and a reprint sent to every State Secretary and Editor for their information and comment. The Association is seeking to lead in place of being led. It believes it can accomplish more by guidance than through edicts of "Thou Shalt Not's" and obstinate opposition to powerful forces that exist in California.

In the 1935 Session of the Legislature over 3,500 bills were introduced. Over 500 of them were concerned with medical care and public health and related to medical practice. On September 15, 1935, a bill becomes a law authorizing hospitals to issue hospital insurance policies under the supervision of the State Department of Health.

California has a system of county hospitals; some of them are most elaborate and splendidly equipped. Supervisors have found that free hospitalization of their constituents in county hospitals is an excellent way of strengthening their political power and continuing in office. This spring in some eight counties a referendum was had to open up the county hospital to all residents. This was not accomplished; still, in one county 90 per cent of the residents who required hospitalization were admitted to the county hospital and in another the percentage was 82. There is a sustained movement that is demanding opening up these county hospitals.

Another great problem in this state is that of hospital associations that are being operated against the law and without any attempt to enforce the law. As the Chairman of our Council has said, "Some of them good, some of them bad and some of them plainly crooked."

The Council, officers and members of the California Medical Association will measure up to and in many instances will excel those who constitute other state organizations. Through personal contact and observation, it is my opinion that in professional skill, professional ideals, judgment, vision, knowledge of applied social economics and in functions of government, they are the peers if not the superiors of those who have sought to discredit the profession in California. It ill becomes these uninformed, and the Editors of Journals to condemn when it is very apparent from their expressions that they knew not what they are speaking of or are willingly voicing misrepresentations, and are unable to recognize social trends and changes.

The foregoing transmits a very general picture of actualities. One must be on "location" in order to appreciate existing potentialities. There is much talk and comment but *very little thinking*. Sound thinking will eventuate in sound principles. It is fatuous not to recognize that social changes are in the making and are at hand. Failure to recognize them will result in a failure to meet them adequately and adapt ourselves to them in order to conserve our professional interests. Medicine has ever *followed* social trends and has been slow to adjust itself to changing conditions. Rarely has medicine reflected leadership. It has resisted, often to its own detriment. An opposition attitude must now be abandoned and in its stead the policy of guidance and supervision should characterize activities. If we fail in this it will only mean that society will gain control and initiate changes that for us eventually will mean *political* legislation and *political* domination of medical practice.

We can prevent political control through leadership that will cause us to retain the right to govern and direct medical practice without legislative enactments. In order to do so we must institute a plan or system that will provide for the medical needs of all classes of society.

Resent this as you may; reflect obstinate resistance; refuse to recognize changing social conditions, and, influential and independent as the profession may feel it to be, nevertheless in a few years political legislation will most surely control and direct the practice of medicine. Such a condition and subjection can be circumvented. We can continue to dwell in the proud temple of medicine, with heads uplifted and as arbiters of our own ways of rendering medical care—but only by a universal recognition of a changing social life and by meeting the demands of changing conditions through comprehensive leadership. Some of the traditions of the past need to be laid aside, however regretfully and reluctantly, and in their stead there must be instituted new principles that will safeguard the autonomy of medical practice.

Many will condemn, bitterly criticize and refuse to acknowledge the need for these readjustments. They are *not thinking*—they are just talking. I do earnestly urge dispassionate thinking.

Criticize California's profession if you wish but in the end I predict that eventually the thinking men will conclude as did the delegate from North Dakota who reported to his State Society: "In fact, some delegates seemingly were of the opinion that the Californians actually had acted for the best, considering conditions and outside pressure brought upon the medical fraternity in that State."

F. C. WARNSHUIS, M.D.,

Secretary, California Medical Association.

450 Sutter Street,
San Francisco.

Editor, Journal Michigan State Medical Society:

Enclosed please find a copy of the "Bulletin" of the North Side Branch of the Cook County (Illinois) Medical Society, containing the final report* of the Committee on Medical Economics, covering the results of a Survey among our members conducted by that Committee.

As Chairman, I am directed to forward this copy of the report to the Editors of all State Medical Journals, requesting consideration for its publication in full or in part, believing that publication in State Journals reaches further and receives more attention than in the American Medical Association Journal.

With that in mind, I comply with the wishes of our Committee, and I hope you will be able to give us space in your Journal.

We will appreciate, also, receiving from you what may have appeared in your columns connected with the subject of our report, with the idea of its incorporation in the application of our recommendations.

CHARLES H. PARKES.

July 27, 1935

*Abstract of this report will appear later in this Journal.
—Ed.

GENERAL NEWS AND ANNOUNCEMENTS

The seventieth annual meeting of the Michigan State Medical Society is in progress as this JOURNAL goes to press. The October number contains the president's address. The publishing of the other addresses presented at the Sault will begin in the November number, which will contain, also, a verbatim account of the deliberations of the House of Delegates.

A news item under the date of September 6 announced a project for a new 350 bed veteran's hospital to be built in or near Detroit at the cost of two million dollars. This hospital will be distinct from the present United States Marine hospital at Windmill Point, which is equipped for handling 150 veteran cases. Evidently the combined capacity of the marine hospital and the new veteran's hospital will be 500.

In 1905 there were 160 medical schools in the United States with an enrollment of 26,147; 1915 and the number of medical schools had been reduced to ninety-six and the enrollment to 14,891. Following the war in 1918, there was manifest a tendency towards an increase in the number of medical students so that by 1925 the number was 18,200. The last academic year witnessed in 2,288. The number of medical schools, however, has not increased with the augmented enrollment. Medicine appears to be an attractive calling for young men of the present day.

At the regular meeting of the Detroit Board of Education held August 27, it was decided not to appoint a dean to the medical department of Wayne University for the time being. Dr. W. J. Stapleton of Detroit, secretary of the Executive Board of Medical Defense of the Michigan State Medical Society, was appointed assistant dean at the June

meeting of the board. The Board of Education, on recommendation of superintendent Cody, appointed assistant dean Stapleton as "acting" dean until the end of the year.

Beginning October 1, the American Medical Association introduces a new radio program to be given each Tuesday at 5:00 P. M., Eastern Standard Time. The general topic is in the form of a toast, "Your health, Ladies and Gentlemen . . ." It will be offered over the blue network of the national broadcasting company. It will be presented in a vivid dramatic form, with musical accompaniment. Among other things, medical emergencies and how they are met will be dealt with. The hero of the medical emergency, the doctor who is available day and night, is the real sponsor of this series of practical and entertaining health broadcasts.

RELIABLE APPARATUS

The JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY has received from the American Medical Association a small pamphlet containing a list of the apparatus accepted by the Council on Physical Therapy, the first one published under the direction and supervision of the Council. In addition to the list and description of accepted apparatus, the pamphlet contains indications for the use of each type and a statement relative to efficacies and dangers.

This pamphlet is a real contribution on the part of the American Medical Association in behalf of rational therapeutics—an effort to help place physical therapy on a sound, scientific basis for the benefit of the medical profession.

One of the purposes of the Council on Physical Therapy is to protect the medical profession, and thereby the public, against inefficient and possibly dangerous apparatus and against misleading and deceptive advertising in connection with the manufacture and sale of devices for physical therapy.

Apparatus accepted includes all the devices accepted by the Council prior to May, 1935. Any physician can obtain this pamphlet free by writing to the Secretary, Council on Physical Therapy, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

AMERICAN MEDICAL DIRECTORY

The work of revising and compiling the new Fourteenth Edition of the AMERICAN MEDICAL DIRECTORY has been started.

After each Directory is published we receive a number of complaints from physicians who have not been listed as Members or Fellows of the American Medical Association. Some of these men have possibly lost appointments with industrial firms, insurance companies, railroads, et cetera, because they were not indicated as members. They may have been members and let their membership lapse or new men in the community who failed to join their local society in time to indicate this information in the Directory.

To eliminate such criticism, we are asking Secretaries of State Medical Societies and Editors of State Medical Journals to coöperate in notifying all delinquents and eligible applicants that a new Directory is going to be published. It would aid greatly if a notice were placed in your publication calling to the attention of your readers the importance of the keeping up of their membership in your Society.

It will probably be two years, or 1938, before sending in their data promptly when requested and another Directory will be issued.

THE DOCTOR'S LIBRARY

Acknowledgment of all books received will be made in this column and this will be deemed by us a full compensation to those sending them. A selection will be made for review, as expedient.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A complete Dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut-Colonel, M.R.C., U. S. Army; Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. With the Collaboration of E. C. L. Miller, M.D., Medical College of Virginia. Seventeenth Edition, Revised and Enlarged. Octavo of 1,573 pages with 945 illustrations, including 283 portraits. Philadelphia and London: W. B. Saunders Company, 1935. Flexible and Stiff Binding. Plain \$7.00 net; Thumb Index \$7.50 net.

The growth of a dictionary is a matter of interest and this is particularly true of a medical dictionary, perhaps more than any other. The first edition of Dorland appeared in 1900 with 770 pages. The number of pages has more than doubled in the thirty-five years of its existence, an index of the advancement of medical science. The present as well as preceding editions have been thoroughly edited by the staff of the American Medical Association under the direction of Dr. Fishbein, Editor of the *Journal of the American Medical Association*. The thin opaque paper (not India paper) has enabled the revisers to keep down the size and weight to a convenient size, a very important matter in a dictionary. The flexible fabricoid cover, thumb index and the bold-face type render it all that can be desired. A commendable feature is the etymologies. The writer feels that the history of words through their derivatives is an important matter in effecting an intelligent comprehension of the word. The illustrations, including portraits, have not been spared, so that in the truest sense the seventeenth edition is an Illustrated Medical Dictionary.

A TEXTBOOK OF LABORATORY DIAGNOSIS WITH CLINICAL APPLICATIONS FOR PRACTITIONER AND STUDENT. By Edwin E. Osgood, M.A., M.D., Assistant Professor of Medicine and Biochemistry, Director of Laboratories, University of Oregon, School of Medicine, Portland, Oregon. Second edition with twenty-seven figures in the text and ten colored plates. Philadelphia: P. Blakison's Son and Co.; Inc., 1935.

We have here a clear and detailed presentation of laboratory methods which include the technic of methods in blood chemistry, urinalysis, analysis of feces, gastric contents, duodenal contents and bile, sputum, basal metabolism determination. This part is preceded by chapters on clinical pathology. The work, valuable for student instruction, will be found of even greater service for those general practitioners who endeavor to keep themselves informed on the latest developments in clinical laboratory diagnosis.

LIVING ALONG WITH HEART DISEASE. By Louis Levin, M.D., Cardiologist to the St. Francis Hospital, Trenton, New Jersey, with a foreword by Thomas M. McMillan, M.D., Associate Professor of Cardiology, Graduate School of Medicine, University of Pennsylvania, New York. The Macmillan Company, 1935.

A very interesting little book of 126 pages written in non-technical language for the layman cardiac patient, it explains in simple language his physical condition. There is a note of optimism running through the various chapters. The author seeks to minimize or dispel the element of fear that so often affects the patient who is told he has some form of cardiac disease.

DISEASES OF THE CHEST. By J. Arthur Myers, M.D., Professor of Medicine, Preventive Medicine and Public Health, University of Minnesota Medical School. National Medical Book Company, Inc., New York. Price, \$3.00.

This is a number of series of national medical monographs edited by Dr. Fishbein, editor of the *Journal of the American Medical Association*. Great progress has been made during the last ten years in the matter of knowledge of diseases of the chest. During this time, methods of diagnosis, treatment, and prevention have been completely revolutionized. The work is satisfactorily illustrated by radiographs. Yet the author draws attention to the fact that the x-ray film very rarely produces sufficient evidence to justify a final diagnosis, due to the fact that there are a number of conditions which closely resemble tuberculosis in the shadows they cast. The x-ray examination of the chest, however, is very essential and the author would extend its use. He also advocates more extensive employment of the bronchoscope, preliminary to resort to the "court of last appeals," namely, the microscope, for the examination of sputum and pleural fluids. This work embodies the latest knowledge in the matter of both diagnosis and treatment.

INDUSTRIAL MEDICINE. By W. Irving Clark, A.B., M.D., Assistant Professor of the Practice of Industrial Medicine, Harvard School of Public Health, Boston, and Medical Director of The Norton Company, Worcester, Massachusetts, and by Philip Drinker, S.B., Ch.E., Associate Professor of Industrial Hygiene, Harvard School of Public Health, Boston, Massachusetts. National Medical Book Company, Inc., New York. Price, \$3.00.

Industrial Medicine is an adaptation of the mental equipment of the general practitioner. Given this training, the physician in the vicinity of the factory or mine has found that the environment of the worker must be taken into consideration in the treatment of accidents and other conditions due to environment, such as dust, heat or chemical irritant. Among the chapters are The Industrial Medicine Department; Industrial Surgery; Industrial Medical Service; Industrial Diseases; Dusts; Pneumoconiosis; Lead and Metal Fume Fever, Dermatoses; Gases, Benzol, Asphyxia and Artificial Respiration; and Prevention. There is a bibliography of over 170 titles for those who would carry the study of the subject further.

CLINICAL DIAGNOSIS BY LABORATORY METHODS. By James Campbell Todd, Ph.B., M.D., Late Professor of Clinical Pathology, University of Colorado, School of Medicine; and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (The Mayo Foundation); Head of Section on Clinical Laboratories, Mayo Clinic. Eighth Edition, Thoroughly Revised. 792 pages with 370 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1935. Cloth, \$6.00 net.

The fact that this book now appears in its eighth edition since it first appeared a quarter of a century ago is sufficient evidence of its acceptance by teachers of laboratory methods in medical colleges. This work is so widely and favorably known to members of the profession that scarcely anything is necessary by way of review than the mere announcement of the appearance of the new edition. Occasion has been taken to revise the work completely as well as to add new material that has been found of value since the appearance of the last revision. New material has been added to the chapter on blood to include Isaac's refractile granule, monocytes, filament-nonfilament counts and Sabin's vital staining technic. The appendix will be found valuable, presenting as it does in convenient form useful data and references in regard to office laboratory methods.